

**Best
Available
Copy**

AD-A280 278



COPY 1

NBS CIRCULAR 567

①

Guide to Instrumentation Literature

94-15453



LIBRARY USE

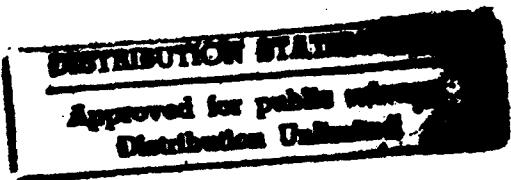
JAN 22 1995



UNITED STATES DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

DTIC QUALITY INSPECTED 3



94 5 23 049

PERIODICALS OF THE NATIONAL BUREAU OF STANDARDS

(Published monthly)

The National Bureau of Standards is engaged in fundamental and applied research in physics, chemistry, mathematics, and engineering. Projects are conducted in fifteen fields: electricity and electronics, optics and metrology, heat and power, atomic and radiation physics, chemistry, mechanics, organic and fibrous materials, metallurgy, mineral products, building technology, applied mathematics, data processing systems, cryogenic engineering, radio propagation, and radio standards. The Bureau has custody of the national standards of measurement and conducts research leading to the improvement of scientific and engineering standards and of techniques and methods of measurement. Testing methods and instruments are developed; physical constants and properties of materials are determined; and technical processes are investigated.

Journal of Research

The Journal presents research papers by authorities in the specialized fields of physics, mathematics, chemistry, and engineering. Complete details of the work are presented, including laboratory data, experimental procedures, and theoretical and mathematical analyses. Annual subscription: domestic, \$4.00; \$1.25 additional for foreign mailing.

Technical News Bulletin

Summaries of current research at the National Bureau of Standards are published each month in the Technical News Bulletin. The articles are brief, with emphasis on the results of research, chosen on the basis of their scientific or technologic importance. Lists of all Bureau publications during the preceding month are given, including Research Papers, Handbooks, Applied Mathematics Series, Building Materials and Structures Reports, Miscellaneous Publications, and Circulars. Each issue contains 12 or more two-column pages; illustrated. Annual subscription: domestic, \$1.00; 35 cents additional for foreign mailing.

Basic Radio Propagation Predictions

The Predictions provide the information necessary for calculating the best frequencies for communication between any two points in the world at any time during the given month. The data are important to all users of long-range radio communications and navigation, including broadcasting, airline, steamship, and wireless services, as well as to investigators of radio propagation and ionosphere. Each issue, covering a period of one month, is released three months in advance and contains 16 large pages, including pertinent charts, drawings, and tables. Annual subscription: domestic, \$1.00; 25 cents additional for foreign mailing.

CATALOG OF NBS PUBLICATIONS

National Bureau of Standards Circular 460 and its Supplement lists all Bureau publications from 1901 through June 1952, including Applied Mathematics Series, Building Materials and Structures Reports, Circulars, Handbooks, Research Papers, and Miscellaneous Publications. Brief abstracts for the publications issued after January 1, 1942, are also included.

National Bureau of Standards Circular 460, 375 pages, \$1.25. Supplement to Circular 460, 223 pages, 75 cents. (A free mimeographed list of publications issued since June 1952 is available on request to the National Bureau of Standards.)

Order all publications from the Superintendent of Documents
U. S. Government Printing Office, Washington 25, D. C.

UNITED STATES DEPARTMENT OF COMMERCE • Sinclair Weeks, *Secretary*
NATIONAL BUREAU OF STANDARDS • A. V. Astin, *Director*

Guide to Instrumentation Literature

W. G. Brombacher, Julian F. Smith, and Lyman M. Van der Pyl



National Bureau of Standards Circular 567

Issued December 14, 1955

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington 25, D. C. Price 75 cents

Price \$1.00

PREFACE

In 1952, Julian F. Smith of the Library of Congress prepared a report on "Instrumentation literature and its uses" for the Office of Basic Instrumentation of the National Bureau of Standards. This has served well the purpose for which it was prepared. Along the same lines the American Society of Mechanical Engineers issued in 1945 a pamphlet on "Sources of information on instruments", prepared by its Industrial Instruments and Regulators Division.

Revision of both pamphlets has been under consideration by the organizations concerned, primarily to bring them up-to-date. Both organizations decided to pool their efforts, and to publish the report as a Circular of the National Bureau of Standards in view of its major contribution to the revision. As part of the ASME contribution, Lyman Van der Pyl, chairman, Bibliography Committee of the Instruments and Regulators Division supplied 138 additional references which he had collected for incorporation into the revision. The Smith report was completely revised and extended. This included rearrangement of the specific literature references, elimination of the list of instrument manufacturers (since these are more completely listed elsewhere) and incorporation of a selected few of the listed house organs into the list of periodicals.

This Circular is intended to assist research investigators, instrument users, and others interested in utilizing the extensive and scattered literature of instrumentation. It was prepared as part of the program of instrumentation research and development which is cooperatively sponsored at the National Bureau of Standards by the Atomic Energy Commission, the Office of Naval Research, and the Air Research and Development Command. This program is administered by the Office of Basic Instrumentation, W. A. Wildhack, Chief.

Accession For	
NTIS GRA&I	
DTIC TAB	
Unannounced	
Justification	
By _____	
Distribution	
Availability Codes	
Avail and/or	
Special	
Distr	A-1

A. V. Astin, Director.

Contents

	Page
Preface	ii
1. Introduction	1
1.1 Objective	1
1.2 Scope of Report	2
1.3 Classes of Literature	2
1.4 Time Coverage	3
1.5 Sources Consulted	3
1.6 Arrangement of Source List Entries	4
1.7 How to Search the Literature	4
2. Instrumentation Literature	5
2.1 Abstract and Review Journals	7
Biology and Medicine	7
Engineering and Technology	7
Instrumentation and Electronics	9
Physics and Chemistry	10
Industries	12
2.2 Bibliographies	14
General, Science or Technology	14
Specific Instrumentation	16
2.3 Books	18
Automatic Control; Design; Theory;	
Servomechanisms; Applications	18
United States and Canadian Publications	18
British and German Publications	21
Foreign Publications, except British and German	23
Terminology	24
Instruments and Measurement	25
Aeronautics; Guided Missiles; Navigation	25
Chemistry	26
Computers, Analog, Digital; Punched Cards	29
Electricity; Magnetism	31
Electronics; Oscilloscopes; Transistors;	
Vacuum tubes	34
Experiments, Design and Evaluation of; Statistics	38
Flow, Fluid; Hydraulics	39
Geophysics; Prospecting; Seismology	41
Instrument Texts with Wide Coverage	43
Mass spectrometry	44
Mechanics	45
Metallurgy; Hardness; Stress and Strain	46
Meteorology; Humidity	47
Metrology; Photogrammetry; Geodesy;	
Surface Finish	49

DTIC QUALITY INSPECTED 3

Microscopy, Electronic and Optical	51
Optics; Photography; Photometry; Spectroscopy	53
Pressure	56
Radiation, Nuclear and X-Ray; Counters	57
Radio; Radar; Microwaves; Communications	59
Sound; Ultrasonics	62
Temperature; Heat; Pyrometers; Regulators	62
Timing	65
Vacuum	65
Vibration	66
Reference Books in Science or Technology	66
Testing and Inspection	71
General	71
Specific	73
Supplement	74
2.4 Dissertations and Theses, Sources and Guides	75
2.5 Directories of Manufacturers; Buyers' Guides; Exhibit Guides	75
2.6 Guides to Technical Literature	78
Chemistry; Engineering; Physics	78
General	79
2.7 Indexes to Technical Literature	80
General	80
Instruments and Electronics	82
Technical Literature, other than Government Publications	82
Technical Literature, Government Publications and Reports	84
2.8 Patents	86
2.9 Periodicals	87
Aeronautics; Meteorology; Navigation	87
Automatic Control; Applied Statistics; Computers	89
Chemistry	90
Electricity; Electronics; Communications; Radio	91
Glass; Oil and Gas; Plastics; Refractories; Rubber; Textiles	95
Heat; Combustion; Engineering, General	96
Instrumentation, General; Laboratory Techniques	97
Mechanics; Horology; Metallurgy; Vacuum	99
Optics; Acoustics; Color; Microscopy; Photography; Radiation, Nuclear, Atomic and Molecular	102
Physics, Fundamental and Applied; Applied Mathematics; Geophysics; Science	104
Standards; Metrology; Testing, General	109
2.10 Specification Lists and Handbooks	112
3. Author Index	114
4. Subject Index	128

GUIDE TO INSTRUMENTATION LITERATURE

W. G. Brombacher, Julian F. Smith,¹ and Lyman Van der Pyl²

This compilation consists of (1) an introduction, (2) a source list of instrumentation literature, (3) an author index, and (4) a subject index. Over 1200 references are listed, including abstract journals, bibliographies, 660 books on technology, directories of manufacturers, guides to and indexes of technical literature, periodicals of interest, and guides to dissertations, patents and specifications. Articles published in periodicals are not referenced, but indexes and abstracts of such articles on a given subject are indicated in the subject index.

1. INTRODUCTION

1.1. Objective

Two concepts have been kept in view in compiling this guide:

- a. Instruments serve to extend or refine the sensing and control faculties of man beyond their unaided range of observation, measurement, or computation.
- b. Instrumentation comprises the art and science of designing, making, applying, and operating instruments.

The broad objective in preparing this report has been to fill the need for information, both broadly and in some detail, on the literature sources on instrumentation in the various sciences and technologies. Guides to the various sources have been stressed.

¹ Now at Lenoir Rhyne College, Hickory, North Carolina.

² Chairman, Bibliography Committee, Instruments and Regulators Division, American Society of Mechanical Engineers. (Rockwell Mfg. Co., Pittsburgh, Pennsylvania.)

1.2. Scope of Report

The report consists essentially of a bibliography or source list of the technical literature useful in locating and supplying instrument information. Both an author and subject index are supplied.

Absolute completeness within the stated scope has not been achieved, nor could be within a reasonable expenditure of time and effort. Sources considered helpful in instrumentation problems are cited even if outside of the stated scope. The effort has been to list the principal information sources bearing directly on instrumentation, and selected sources from related fields.

Foreign languages are not covered as thoroughly as English, partly because they are less freely usable by Americans, and partly because their bibliographic reporting is less readily accessible. Foreign language titles are not in general translated into English; Russian titles are transliterated but not translated. Subject matter is indicated by the classified arrangement of entries; annotations are added when this seems insufficient. Since the classification of entries is often a matter of choice, the subject index is an important aid to locating pertinent literature.

1.3. Classes of Literature

The classes of instrument literature and the manner of coverage in the source list are:

- a. Books: reference works, manuals, instrumentation and allied textbooks, data compilations, exhibit guides.
- b. Periodicals, including selected house organs.
- c. Abstracting and indexing journals or services in chemistry, physics, engineering, biological sciences, and the process industries.
- d. Bibliographies.

- e. Patent office publications, and aids to patent searching.
- f. Indexes of technical reports not published in periodicals.
- g. Directories of manufacturers, for locating sources of trade literature.
- h. Indexes of specifications.
- i. Guides for searchers.

Trade literature, which include catalogs and manuals of instructions, are not listed in this compilation. Directories of instrument manufacturers, which are listed, will help locate desired information given in this literature.

Only house organs with a high grade technical content, including some on instrumentation, are listed.

Periodicals in this source list are not rated as to the proportion of their instrumentation content; many, from their titles or sponsors, will obviously rank high. Many others, though important to some searchers, would rate quite low.

1.4. Time Coverage

Time periods covered in the source list vary according to rate of obsolescence; books and reference works are listed for about 20 years back, most are less than 10 years old; periodicals and bibliographies, back to their beginning dates.

1.5. Sources Consulted

Much of this source list was compiled from the card catalogs of the Library of Congress, the National Bureau of Standards Library, and the Carnegie Library, Pittsburgh, or by direct examination of material on the shelves. Other sources useful in the compilation were references I102, I105, I110, I112, I113, I114, I202, and I203, all under 2.7 Indexes.

1.6. Arrangement of Source List Entries

The list of instrumentation literature sources is arranged by kinds and then by subjects, as indicated in the Contents. In a subject group the sequence is alphabetical by title for bibliographies, abstract journals, periodicals and the like. For books the sequence is alphabetical by authors (including corporate authors) or editors, except for a few added references. When no author or editor is designated, entries are placed alphabetically by issuing organization or publisher. An exception is the Radiation Laboratory Series, all titles of which are grouped in a single entry, (2.3-3823), in the alphabetical place for editor Ridenour's name.

1.7. How to Search the Literature

For general information on how to search the technical literature, consult the Section (2.6) on Guides to Technical Literature for books on the subject.

2. INSTRUMENTATION LITERATURE

A few remarks on some of the classes of instrumentation literature may be helpful or of interest.

Abstract Journals. The instrumentation coverage of specialized scientific and technical abstract journals is inevitably diffuse. However, the coverage in a number of these journals is quite concentrated. Some of the leading examples are:

Biological Abstracts (A 101)

Microscopy, technique, laboratory apparatus (under general biology)

Oceanography (under ecology)

Methods and apparatus; cardiovascular system (under animal physiology)

Bacteriological apparatus and methods

Chemical Abstracts (A 407)

Section 1. Apparatus, plant equipment, unit operations

Section 3. Electronic phenomena and spectra

Section 5. Photography

Section 7. Analytical chemistry

Chemisches Zentralblatt (A 408)

Section A - 2, Optics

Section A - 3, Electricity, electrochemistry

Section G - Analysis; laboratory practice

Section H - 24, Photography

Engineering Index (A 211) (Card service; any section can be received currently by subscription. Also annual compilation.)

- 5. Aeronautical instruments
- 56. Electric meters and indicators
- 59. Electric signal systems
- 71. Flow of fluids
- 79. Geophysical exploration
- 85. Heat, pressure and combustion instruments
- 92. Hydrology, meteorology, seismology
- 93. Illuminating engineering
- 118. Materials testing
- 144. Optics
- 168. Radio communication
- 186. Scientific instruments and precision tools
- 194. Standards and codes
- 223. X-Ray analysis and testing

Engineering Index (A211) (Cont.)

- 260. Metals testing
- 266. Photoelasticity
- 267. Photoelectricity
- 294. Automatic control
- 297. Industrial electronics
- 299. Radioactivity and radioactive materials.

In physics, Physics Abstracts (A417) and Nuclear Science Abstracts (A416) contain abstracts on research instrumentation in physics, also properly classified.

Patents. Great Britain first granted patents for inventions in 1617. Next in line (1789), the U. S. has long been the most prolific granter of patents. Numbering of U. S. Patents started a new series with No. 1 in 1837, and reached 2,700,000 in January, 1955. More than 100 nations or colonies have granted patents, but many never issued printed copies. Most of the current instrument patents are U. S., British, Canadian (no printed copies until 1949), German, French, Swiss, Belgian (no printed copies), Dutch, Danish, Norwegian, Swedish, Italian, Japanese, or Russian (monopolies of the Soviet Government).

Most patent offices issue a weekly or monthly gazette listing all new patents, with or without printing a claim or abridgment. Canada, Germany, and the United States print claims, Great Britain, abridgments, and France, Italy, and Switzerland, titles.

Periodicals. Many periodicals have collective indexes for periods of 5, 10 or more years. A list of such indexes is presented (2.7). Many regular cumulations are listed from which the existence of later collective indexes can be predicted. As an example, Chemical Abstracts cumulations have always been decennial, while Chemisches Zentralblatt has mostly had quinquennial indexes since 1897.

Technical Reports. Access to the unpublished reports is generally possible only through some agency which brings them under bibliographic control. Four of the principal agencies are a) Library of Congress, Technical Information Division, b) Armed Services Technical Information Agency, c) Technical Information Service, Atomic Energy Commission and d) National Advisory Committee for Aeronautics. These four can furnish (to qualified inquirers) a nearly complete report service for postwar military, aeronautical and atomic energy research and development.

Nuclear Science Abstracts of the Atomic Energy Commission (A416) and Bibliography of technical reports issued by the Office of Technical Services (I 411), both available by subscription, contain indexes and abstracts of many of the unclassified or declassified unpublished reports.

2.1. Abstract and Review Journals
A100. Biology and Medicine

Note: Chemical Abstracts, British Abstracts and Chemisches Zentralblatt have substantial coverage in biology.

- A100. Advances in biological and medical physics. Academic Press, New York. Annual, 1948-. (No issues in 1949 and 1950).
- A101. Biological abstracts. University of Pennsylvania, Monthly, 1926-, Philadelphia.
- A102. Current list of medical literature. Monthly, Armed Forces Medical Library, Washington. (Reviews about 1500 periodicals; annual indexes).
- A103. Progress in biophysics and biophysical chemistry. Annual, 1950-. Academic Press, New York.
- A104. Quarterly cumulative index medicus. 1916-. American Medical Association, Chicago.

A200. Engineering and Technology

- A200. Advances in applied mechanics. Annual, 1948-. Academic Press, New York. (No issues in 1949 and 1950).
- A201. Aeronautical engineering review. Monthly, 1942-. Institute of the Aeronautical Sciences, New York. (Subject index published separately, since 1947, as the annual Aeronautical Engineering Index. About 4500 abstracts annually).
- A202. Aeronautical reviews: guide to the current literature of aeronautical research and engineering. Monthly, 1942- (supplement to Aeronautical engineering review). Institute of the Aeronautical Sciences, New York.
- A203. Air University periodical index. Quarterly. Maxwell Air Force Base, Alabama. (About 800 entries annually).
- A204. Applied mechanics reviews: critical review of the world literature in applied mechanics. Monthly, 1948-. American Society of Mechanical Engineers, New York.
- A205. Battelle technical review. Monthly, 1952-. (New title of Battelle Library Review to fit expanded scope; editorials, original papers and "Notes from Battelle" are now added to the abstracts). Abstracts in 36 classified sections; about 15,000 abstracts per year.

2.1. Abstract and Review Journals
A200. Engineering and Technology (Cont.)

- A206. Bibliografia elettrotecnica. Bimonthly. Centro Italiano di Documentazione, Milan. (Reviews only Italian literature; about 5700 entries in 1951).
- A207. Current patent abstract cards. Punch card reproductions of entries from the Official Gazette of the U. S. Patent Office; current subscriptions, and orders for entries back to 1921; plans are to extend the service to other reproducible abstracts. Picturesort Co., New Haven, Conn.
- A208. Electrical engineering abstracts; section B of Science abstracts. Monthly, 1898-. Institution of Electrical Engineers, London, (Section A is Physics abstracts).
- A209. Electrical research association weekly abstracts. British Electrical and Allied Industries Research Association, Leatherhead, Surrey, England. (About 2000 entries annually).
- A210. Engineering abstracts. Quarterly, 1919-. Supplement to the Journal of the Institution of Civil Engineers, London. Published in sections, all now discontinued excepting Section 3, Shipbuilding and marine engineering.
- A211. Engineering index. Annual, 1884-. Engineering Societies, New York. Includes abstracts (also supplied on cards by subscription, 1929-).
- A212. Engineers digest: review of world engineering progress. Monthly, 1940-, London. (Abstracts; digests; news notes; new materials, processes and equipment).
- A213. Highway research abstracts. Monthly, 1931-. Highway Research Board, National Research Council, Washington. (About 125 abstracts annually).
- A214. Index aeronauticus: review of technical information. Monthly, 1945-. Technical Information Bureau, Ministry of Supply, London. (About 1500 abstracts per year).
- A215. Japanese engineering abstracts; section of the Japanese Journal of Engineering, 1921-. National Research Council of Japan, Tokyo.
- A216. Recent aeronautical literature. Monthly. Beech Aircraft Corp., Wichita, Kansas. (About 6000 abstracts annually).
- A217. Repertorium der technischen journal-literatur (Repertory of the technical journal literature). Irregular. 1823-1908, Berlin, Leipzig.

2.1. Abstract and Review Journals
A200. Engineering and Technology (Cont.)

- A218. Research abstracts. U. S. National Advisory Committee for Aeronautics, Washington, D. C. Issued biweekly.
- A219. Road abstracts. Monthly, 1934-. Road Research Laboratory, Department of Scientific and Industrial Research, and Ministry of Transport, London. About 1000 abstracts per year.
- A220. Technische Zeitschriftenschau. Semimonthly, 1916-. Verein deutscher Ingenieure, Berlin.
- A221. Technisches zentralblatt; abteilung elektrotechnik. Monthly. Deutsche Akademie der Wissenschaften, Berlin. (Abstracts of world literature; separately paged list of U. S. Patents, without abstracts).
- A222. Zentralblatt für mechanik. Monthly, 1933-1944. (Replaced the section Mechanik in Zentralblatt für Mathematik und ihre Grenzgebiete). Springer-Verlag, Berlin.
- A223. Zentralblatt für werkstoffforschung. Irregular, 1941-. Springer-Verlag, Berlin.

A300. Instrumentation and Electronics

- A300. Bulletin of the British Scientific Instruments Research Association. Monthly, 1946-. Information Dept., BSIRA, London. (About 2000 abstracts per year).
- A301. Elektronentechnische Berichte: Forschungsberichte und Referatenkartei für des Gebiet der Hochfrequenztechnik, ihre Grenzgebiete und Anwendungen. Irregular, 1947-. Institut für wissenschaftliche Berichterstattung RATEM, Vienna. Uses the RATEM (Radio, Iontchnik, Elektromedizin) modification of the Universal Decimal Classification; reviews about 1500 periodicals from 56 nations.
- A302. Institute of Radio Engineers, Proceedings, Abstracts Section. Monthly, 1946-. New York.

2.1. Abstract and Review Journals
A400. Physics and Chemistry

A400. Abridged scientific publications from the Kodak Research Laboratories. Annual, 1919-. Eastman Kodak Co., Rochester, New York.

A401. Advances in geophysics. Annual, 1952-. Academic Press, New York.

A402. Bibliographie des sciences et de l'industrie. 1898-, Paris.

A403. Boletin del centro de documentacion científica y técnica. Monthly, 1952-, Mexico. (World literature; no abstracts, January to August 1952; abstracts only of articles from Latin-American sources, from September 1952; January-July, 32,207 entries).

A404. British abstracts: comprising abstracts of all significant papers in pure and applied chemistry and biological subjects. Weekly, in separate sections, 1926-1954. Bureau of Abstracts, London. (Final issue, 1954).
 Ai, General, physical and inorganic chemistry
 Aii, Organic chemistry
 Aiii, Physiology, biochemistry, anatomy, pharmacology, experimental medicine
 Bi, Chemical engineering, fuels, metallurgy, applied electro-chemistry, industrial inorganic chemistry
 Bii, Industrial organic chemistry
 Biii, Agriculture, foods, sanitation
 C, Analysis and apparatus (monthly).

A405. Buletin de documentare technique. Monthly, 1949-. Institut de Documentare, Bibliografie si Editura Technica, Bucharest. (Abstracts; bibliography of Roumanian and Soviet technical literature; lists of translations from Russian and other Soviet languages into Roumanian).

A406. Bulletin analytique de la centre national de la recherche scientifique. Mostly monthly, 1940-, Paris. (Reviews 4600 periodicals; 100,000 to 120,000 abstracts per year). Published in 3 parts:
 A. Mathematical, physical and chemical sciences; technology.
 B. Biological sciences.
 C. Philosophy (quarterly, 1947-.)
(widest subject coverage and largest number of abstracts per year among abstract journals).

A407. Chemical abstracts. Semimonthly, 1907-. American Chemical Society, Columbus, Ohio. Decennial author and subject indexes, 1907-1916, 1917-1926, 1927-1936, 1937-1946.

2.1. Abstract and Review Journals
A400. Physics and Chemistry (Cont.)

A408. Chemisches Zentralblatt; vollständiges Repertorium für alle Zweige der reinen und angewandten Chemie. Weekly, 1830- (excepting a short cessation during and after World War II). Deutsche Akademie der Wissenschaften (Berlin), Akademie der Wissenschaften (Göttingen), and Gesellschaft deutscher Chemiker; Berlin and Weinheim. Cumulative author and subject indexes, 1870-1881, 1897-1901, 1902-1906, 1907-1911, 1912-1916, 1917-1921, 1922-1924, 1925-1929, 1930-1934, 1935-1939.

A409. Cleaver-Hume technical article index; monthly summary of important articles appearing in the world's leading technical and scientific journals. Monthly, 1952-. Cleaver-Hume Index Offices, London, and Norwegian Industries Development Association, Oslo.

A410. Singer, T. E. R. Current abstract and index periodicals of interest to the chemist. Industrial and Engineering Chemistry, News Edition, Vol. 18, 1940. pp. 541-542.

A411. Geophysical abstracts. Varying frequency, 1927-. U. S. Bureau of Mines (to 1936) and U. S. Geological Survey (1937-) Washington. Covers world literature.

A412. Guide to Russian scientific periodical literature. Monthly, 1948-. Brookhaven National Laboratory, Upton, New York. (Translated tables of contents of current issues; also an occasional translation of a complete paper).

A413. Japanese physics abstracts; section of Japanese journal of physics, 1922-. National Research Council of Japan, Tokyo.

A414. Mathematical reviews. Monthly, 1940-. American Mathematical Society, Providence, R. I. (About 5000 abstracts annually; has an edition printed on one side of the paper, extra charge \$1.00).

A415. Meteorological abstracts and bibliography. Monthly, 1950-. American Meteorological Society, Boston.

A416. Nuclear science abstracts. Semimonthly, 1948-. U. S. Atomic Energy Commission, Technical Information Branch, Oak Ridge, Tennessee.

A417. Physics abstracts; section A of Science abstracts. Monthly, 1898-. Institution of Electrical Engineers, London. (Section B is Electrical Engineering Abstracts).

2.1. Abstract and Review Journals
A400. Physics and Chemistry (Cont.)

- A418. Physikalische berichte. Semimonthly, 1920-. Superseded Fortschritte der Physik, 1847-1919. Deutsche Gesellschaft für technische Physik, Braunschweig. (Abstracts the world's current literature).
- A419. Progress in nuclear physics. Annual, 1950-. Academic Press, New York. (No issue in 1951).
- A420. Repertorium für Experimentalphysik, für physikalische Technik, mathematische und astronomische Instrumentenkunde. Irregular, 1865-1891, Munich.
- A421. Reports on progress in physics, Physical Society (London); Cambridge Univ. Press; annual (most years) from 1934; contains chapters on sound, spectroscopy, optical instruments, heat, electric and magnetic measurements, etc.; cumulative index to vols. 1-15 in vol. 15 (1952).
- A422. Revue bibliographique. Monthly, 1920-. Section of Journal le radium, Société Française de Physique, Paris.
- A423. Science briefs. Semimonthly. Evans Signal Laboratory, Signal Corps. (Abstracts of periodical articles).
- A424. Spectrochemical abstracts. Bimonthly. Hilger & Watts, Ltd., London.
- A425. Vacuum classified abstracts; vacuum research, apparatus and instruments. Quarterly, 1951-. Supplement to Vacuum, W. Edwards & Co., London.
- A426. Zentralblatt für Geophysik, Meteorologie und Geodäsie. Monthly, 1937-, Berlin.
- A427. Zentralblatt für Mathematik und ihre Grenzgebiete. Irregular, 1913-. Springer-Verlag, Berlin. (Its section Mechanik split off, 1933-1944, as a separate abstract journal, Zentralblatt für Mechanik).

A500. Industries

- A500. Ansco abstracts. Monthly, 1941-. Ansco Division of General Aniline & Film Corp., Binghampton, New York. (About 1000 abstracts annually).

2.1. Abstract and Review Journals
A500. Industries (Cont.)

- A501. British ceramic abstracts. Monthly. British Ceramic Research Association, Stoke-on-Trent; also published in Transactions of the British Ceramic Society. (About 3000 abstracts annually).
- A502. Bulletin and foundry abstracts of the British Cast Iron Research Association. Bimonthly, 1942-. Council of the BCIRA, Birmingham.
- A503. Ceramic abstracts. Monthly, 1922-. American Ceramic Society, Columbus, Ohio. (Issued as a section of the Society's Journal; about 3500 abstracts annually).
- A504. Fuel abstracts. Monthly, 1947-. Fuel Research Station, Department of Scientific and Industrial Research, London. (About 10,000 abstracts per year).
- A505. Gas abstracts. Monthly, 1945-. Institute of Gas Technology, Chicago. (About 2500 abstracts annually).
- A506. Index to current technical literature. Bimonthly, 1923-. Bell Telephone Laboratories, New York. (Over 10,000 items per year).
- A507. Library bulletin of abstracts. Weekly, 1926-. Universal Oil Products Co., Chicago.
- A508. Metallurgical abstracts. Monthly, 1931-. Published as part of the Journal of the Institute of Metals; has selections on instruments, testing, temperature measurement, and control; Institute of Metals, London. (About 6000 abstracts annually).
- A509. Monthly abstract bulletin. 1915-. Kodak Research Laboratories, Rochester, New York.
- A510. Photographic abstracts. Quarterly, 1921-. Scientific and Technical Group, Royal Photographic Society of Great Britain, London. (About 1250 abstracts annually).
- A511. Refrigeration abstracts. Quarterly, 1946-. American Society of Refrigerating Engineers, New York. (About 2500 abstracts annually).
- A512. Reynolds aluminum abstracts. Monthly, 1951-. Research Information Service, John Crerar Library, Chicago, for Reynolds Metals Co., Louisville, Kentucky. (About 1500 abstracts annually).

2.1. Abstract and Review Journals
A500. Industries (Cont.)

A513. *Science et industries photographiques: documentation scientifique et technique de la photographie, de la radiographie et de la cinématographie.* Monthly, 1930-. Editions de la Revue d'Optique, Paris.

A514. *Summary of current literature.* Biweekly, British Cotton Industry Research Association, Shirley Institute, Manchester. (About 5000 abstracts annually).

A515. *Textile technology digest: American review of the literature of textile science and technology,* Institute of Textile Technology, Charlottesville, Virginia. (About 300 abstracts annually).

2.2. Bibliographies
B100. General, Science, or Technology

Note: See also indexes to technical literature and 2.2, Books.

B100. *Theodore N. Bestermann, compiler and publisher; World bibliography of bibliographies and of bibliographical catalogues, calendars, abstracts, digests, indexes and the like.* Ed. 2, 1947-1949. Vol. 1, A-H; Vol. 2, I-Z; Vol. 3, Index.

B101. *Bibliographic index: cumulative bibliography of bibliographies.* Quarterly, 1938-. H. W. Wilson Co., New York. (Cumulated annually and at 6-year intervals).

B102. *Bibliographie des travaux scientifiques (sciences mathématiques, physiques et naturel).* (Bibliography of scientific works (mathematical, physical, and natural sciences)). Annual, 1895-1922. Imprimerie Nationale, Paris.

B103. *Bibliography of agriculture.* Monthly, 1937-. U. S. Department of Agriculture Library, Washington. (Nearly 100,000 entries annually).

B104. *Bibliography of bibliographies in electrical engineering 1918-1929.* Special Libraries Association, New York, 1931. (Copies of SLA bibliographies can be borrowed from SLA, 31 E. Tenth St., New York, if not purchasable).

B105. *Bibliography of translations from Russian scientific technical literature.* Monthly, Oct. 1953-. Library of Congress, Washington, D. C.

2.2. Bibliographies

B100. General, Science, or Technology (Cont.)

B106. Ruth Cobb, editor; Periodical bibliographies and abstracts from the scientific and technologic journals of the world. National Research Council, Bulletin 3, Washington, 1920. pp. 131-154.

B107. Karl K. Darrow, editor; Classified list of published bibliographies in physics 1910-1922. Research Information Service, National Research Council, Bulletin 47, Washington, 1924. 102 pp.

B108. Deutsche wissenschaftliche Bücher 1945-1949; Niedersächsische Staats- und Universitätsbibliothek, Göttingen, 1951; 359 pp. (718 columns).

B109. Lawrence Heyl, compiler, Current national bibliographies: list of sources of information concerning current books of all countries. American Library Association, Chicago; revised ed., 1942. 21 pp.

B110. Elsa Von Hohenhoff, Bibliography of journals, books, and compilations which list and abstract patents. 1936. 70 pp. Baltimore Special Library Association, Baltimore.

B111. Index bibliographicus: catalogue internationale des bibliographies courantes, League of Nations. Walter de Gruyter & Co., Berlin, Ed. 1, 1925; Ed. 2, 1931, 420 pp.; Ed. 3, 1951, Vol. 1, Science and Technology, 52 pp.

B112. Magazine index. Weekly. Pacific Aeronautical Library, Institute of the Aeronautical Sciences, Los Angeles. (About 7500 entries per year).

B113. Monthly catalog of U. S. Government publications, 1895-. Superintendent of Documents, Washington.

B114. Monthly checklist of state publications, 1910-. Library of Congress, Washington.

B115. Science and technology: record of literature recently added to the Carnegie Library of Pittsburgh. Quarterly, 1946-. (Annotated accession list).

B116. Science library bibliography series. South Kensington Museum, London. A series of over 600 bibliographies on scientific and technical subjects.

B117. Selected bibliography of engineering subjects. 1937. Engineers' Council for Professional Development, New York.

B118. Wm. A. Smith and F. L. Kent, editors; World list of scientific periodicals published in the years 1900-1950. Academic Press, New York, 1952. 1058 pp.

2.2. Bibliographies
B100. General, Science or Technology (Cont.)

- B119. Technical book review index. Monthly, 1935-. Special Libraries Association, New York.
- B120. Translated contents lists of Russian periodicals. Monthly, 1948-. Technical Information Service, Department of Scientific and Industrial Research, London. (Contents of over 30 current periodicals; list of new Russian books received).
- B121. Carolyn F. Ulrich, editor; Ulrich's periodicals directory: classified guide to a selected list of current periodicals, foreign and domestic. R. R. Bowker Co., New York; editions irregularly since 1932; Post-war edition, 1947.
- B122. Clarence J. West and D. D. Berolsheimer, editors; Bibliography of bibliographies on chemistry and chemical technology, 1900-1924. Bulletin No. 50, Research, Information Service, National Research Council, Washington, 1925; 308 pp. First Supplement (1924-1928), Bull. No. 71, 1929, 161 pp. Second Supplement (1929-1931), Bull. No. 86, 1932.

B200. Specific Instrumentation

- B200. American Society of Mechanical Engineers, Mechanical springs. 1927. 71 pp. 14 supplements, to 1939. New York.
- B201. American Society of Mechanical Engineers, Bibliography on thermostatic bimetals, low-expansion alloys, and their application. 1949, New York. 52 pp.
- B202. American Society for X-ray and Electron Diffraction, Classified bibliography of x-ray and electron diffraction papers. Semianual. Bell Telephone Laboratories, New York. (About 900 entries annually).
- B203. Vernon E. Cosalett, editor, Bibliography of electron microscopy. Longmans. Green & Co., New York, 1951. 350 pp.
- B204. Ann D. Franklin and Eric V. Hankam, Compilers, Bibliography on the use of IBM machines in science, statistics, and education. Watson Scientific Computing Laboratory, International Business Machines Corporation, New York. January, 1952. 605 references.
- B205. Paul D. Freeze, Bibliography on the measurement of gas temperature. National Bureau of Standards circular 513, Washington, 1952. 14 pp.

2.2. Bibliographies
B200. Specific Instrumentation (Cont.)

- B206. A. Henley and C. L. Schuettler, *Electrophoresis bibliography*. American Instrument Company, Silver Spring, Md., 1953. 228 pp., 2400 references.
- B207. G. L. Hollander, *Bibliography on data storage and recording*. Communications and Electronics, American Institute of Electrical Engineers, No. 11, 49-58, March 1954. 330 entries.
- B208. Leeds and Northrup, *Bibliography of polarographic literature*. Leeds & Northrup Co., Philadelphia, 1950. 102 pp., 2208 references with index.
- B209. Arthur D. Little, Inc., *Low temperature bibliography for the field of cryogenics*. Cambridge, Mass., 1952, 63 pp., 25 classes, with abstracts.
- B210. C. Marton, S. Sass, M. Swerdlow, A. Van Bronkhorst and H. Meryman, *Bibliography of electron microscopy*. National Bureau of Standards circular No. 502, 1950. 87 pp. To 1950.
- B211. William F. Meggers and Bourdon F. Scribner, *Index to the literature on spectrochemical analysis, 1920-1939*. American Society for Testing Materials, Philadelphia, Ed. 2, 1941. 94 pp., 1467 references. Part 2 (1940-1945), 1947. 180 pp. Part 3(1946-50), 1953. 226 pp.
- B212. Ministry of Supply, Great Britain, *Bibliography of information on servomechanisms and related subjects*. M.I.S. London, 1950. 138 pp., 640 references. Addendum No. 1, November 1953. 117 pp., 464 refs.
- B213. T. H. Redding, *Bibliographical survey of flow through orifices and parallel-throated nozzles*. Chapman & Hall, London, 1952. 196 pp., 610 references, with abstracts.
- B214. Special Devices Center, Office of Naval Research, *Bibliography of human engineering reports*. Sands Point, Port Washington, New York. Issued November 1, 1949 as NavExos-P-530-B, Kept current by periodic supplements.
- B215. F. Stenger and R. M. Ancell, compilers, *Automatic controls: bibliography*. U. S. Bureau of Reclamation, Design and Construction Division, Technical Library, Denver, 1951.
- B216. L. M. Van der Pyl, *Bibliography on Bourdon tubes and Bourdon tube gages*. American Society of Mechanical Engineers, Paper No. 53-IRD-1, 1953. 22 pp.

2.2. Bibliographies

B200. Specific Instrumentation (Cont.)

B217. Verein deutscher Ingenieure, Schriftumsberichte aus der Regelungstechnik; Fachausschuss für Regelungstechnik. VDI-Verlag, Berlin, 1941-45.

B218. R. Westley. A bibliography and survey of the vortex tube. College of Aeronautics, Cranfield. Note 9, 1954. 38 pp., 116 references. Covers 1931-1953.

B219. Industrial Controls and Feedback Control Systems Committees, American Institute of Electrical Engineers, Bibliography on feedback control. Applications and Industry, No. 10, 430-462, January 1954. 2083 refs.

B220. W. G. Brumbacher and T. W. Lashof, Bibliography and index on dynamic pressure measurement. National Bureau of Standards Circular C558, Government Printing Office, Washington, 1955. 124 pp. 850 references, author and subject index.

2.3. Books

Automatic Control--Design; Theory; Servomechanisms; Applications
1000. United States and Canadian Publications

1000. William R. Ahrendt and John F. Taplin, Automatic feedback control. McGraw-Hill, New York, Ed. 1, 1951. 412 pp.

1001. William R. Ahrendt, Servomechanism practice. McGraw-Hill, New York, 1954. 350 pp.

1002. American Society of Mechanical Engineers, Frequency-response symposium. 1953. 16 papers, bound. Also, Transactions ASME, November 1954. Bibliography, 284 references through 1952.

1003. Ralph R. Batcher and William Moulic, Electronic control handbook. Caldwell-Clements, Inc., New York, 1946. 344 pp.

1004. Gordon S. Brown and D. P. Campbell, Principles of servomechanisms: dynamics and synthesis of closed loop systems. John Wiley & Sons, Inc., New York, 1948. 400 pp.

1005. Allen L. Chaplin, Applications of industrial pH controls. Instruments Publishing Co., Pittsburgh, 1950. 144 pp.

2.3. Books; Automatic Control
1000. United States and Canadian Publications (Cont.)

1006. Harold Chestnut and Robert W. Mayer, Servomechanisms and regulating system design. Vol. 1. John Wiley & Sons, Inc., New York, 1951. 505 pp., bibliography, 114 titles. Vol. 2, 1955. 384 pp.
1007. William D. Cockrell, Industrial electronic control; guide to the understanding of control circuits for industrial uses. McGraw-Hill, New York, Ed. 2, 1950. 385 pp.
1008. L. R. Crow, Synchros, self-synchronous devices and electrical servomechanisms. Scientific Book Publishing Co., Vincennes, Indiana, 1953. 222 pp.
1009. W. J. Deerhake and A. C. Hall, Instrument servomechanisms. Dept. of Electrical Engineering, Mass. Institute of Technology, 1953. 265 pp.
1010. Donald P. Eckman, Principles of industrial process control. John Wiley & Sons, Inc., New York, 1945. 239 pp.
1011. Walter R. Evans, Control system dynamics. McGraw-Hill, New York, 1954. 277 pp.
1012. G. H. Farrington, Fundamentals of automatic control. John Wiley & Sons, Inc., New York, 1951. 285 pp.
1013. Eugene W. Feller, Instrument and control manual for operating engineers. McGraw-Hill, New York, 1947. 426 pp.
1014. G. H. Fett, Feedback control systems. Prentice-Hall, New York, 1954. 361 pp.
1015. Irmgard Fluegge-Lotz, Discontinuous automatic control. Princeton University Press, 1953. 165 pp.
1016. Ivan A. Greenwood, Jr., J. Vance Holdam, Jr., and Duncan MacRae, Jr., Electronic instruments. Mass. Institute of Technology. Radiation Laboratory Series, McGraw-Hill, New York, 1948. Part II, Instrument servomechanisms, pp. 215-492.
1017. C. H. Gregory, H. B. Appleton, A. P. Lowes and F. C. Whalen, Instrumentation and control in the German chemical industry. Report of the British Intelligence Objectives Subcommittee. Reprint by Mapleton House, Brooklyn, New York, 1947. 157 pp.
1018. Albert C. Hall, The analysis and synthesis of linear servomechanisms. Technology Press, Cambridge, Mass., 1947. 193 pp.

2.3. Books; Automatic Control
1000. United States and Canadian Publications (Cont.)

1019. Harvard University. *Synthesis of electronic computing and control circuits*. Computation Laboratory. Harvard University Press, Cambridge, 1951. 278 pp.
1020. P. B. Harwood, *Control of electric motors*. John Wiley & Sons, Inc., New York, Ed. 3, 1953. 538 pp.
1021. R. G. Heumann, *Magnetic control of industrial motors*. John Wiley & Sons, Inc., New York, ed. 2, 1954. 714 pp.
1022. H. D. James and L. E. Markle, *Controllers for electric motors*. McGraw-Hill, New York, Ed. 2, 1950. 418 pp.
1023. Hubert M. James, Nathaniel B. Nichols and Ralph S. Phillips, editors, *Theory of servomechanisms*. McGraw-Hill, New York, 1947. 375 pp. (No. 25, Radiation Laboratory Series).
1024. R. W. Jones, *Electric control systems*. John Wiley & Sons, Inc., New York, 1953. 511 pp. (Theory of electric motor control),
1025. Royce G. Kloeffer, *Industrial electronics and control*. John Wiley & Sons, Inc., New York, 1949. 478 pp.
1026. Henri Lauer, R. Lesnick and L. E. Masterson, *Servomechanism fundamentals*. McGraw-Hill, New York, 1947. 274 pp.
1027. Edwin S. Lincoln, *Industrial electric control*. Essential Books, New York, 1946. 374 pp.
1028. LeRoy A. MacColl, *Fundamental theory of servomechanisms*. D. Von Nostrand Co., New York, 1945. 130 pp.
1029. R. E. Miller, editor, *Maintenance manual of electronic control*. McGraw-Hill, New York, 1949.
1030. F. E. Nixon, *Principles of automatic controls*. Prentice-Hall, New York, 1953. 409 pp.
1031. George Perazich, Herbert Schimmel and Benjamin Rosenberg, *Industrial instruments and changing technology*. Report No. M-1, Works Progress Administration, Philadelphia, 1938. 148 pp. (30 pp. of bibliography).
1032. A. Porter, *Introduction to servomechanisms*. John Wiley & Sons, Inc., New York, 1950. 154 pp.

2.3. Books; Automatic Control
1000. United States and Canadian Publications (Cont.)

1033. Ed. S. Smith, Automatic control engineering. McGraw-Hill, New York, 1944. 367 pp.
1034. Texas A. & M College, Instrumentation for the process industries. Annual, 1946-. Fifth Annual Symposium, September 1950; Instruments Publishing Co., Pittsburgh, 1951. 56 pp. Sixth, September 1951; Instruments Publishing Co., 1952.
1035. George J. Thaler and Robert G. Brown, Servomechanism analysis. McGraw-Hill, New York, 1953.
1036. John D. Trimmer, Response of physical systems. John Wiley & Sons, Inc., New York, 1950. 268 pp.
1037. Rudolph B. Werry, Instrumentation and automatic control in the oil refining industry. Brown Instrument Co., Philadelphia, 1941. 182 pp.
1038. N. Wiener, Extrapolation, interpolation and smoothing of stationary time series. MIT Technology Press and John Wiley & Sons, New York, 1950. 163 pp.
1039. A. J. Young, Process control. Instruments Publishing Co., Pittsburgh, 1954. 134 pp.
1040. Milton G. Young and Harry S. Bouche, Fundamentals of electronics and control. Harper and Bros., New York, 1952. 525 pp.
1041. Herbert Ziebolz, Analysis and design of translator chains. Askania Regulator Co., Chicago, 1946. 2 vols. Vol. 1 - Text (Bibliography, pp. 274-277). Vol. 2 - Diagrams.

1100. British and German Publications

1100. British Iron and Steel Research Association, Instrumentation of open hearth furnaces. George Allen & Unwin, Ltd., London, 1951. 160 pp.
1101. Friedrich V. A. Engel, Mittelbare Regler und Regelanlagen: Grundlagen, Aufbau und Anwendung. VDI Verlag, Berlin, 1944. 240 pp. (Reprinted by Edwards Bros., Ann Arbor, 1946).

2.3. Books; Automatic Control

1100. British and German Publications (Cont.)

1102. Josef Kroenert, editor, *Handbuch der technischen Betriebskontrolle*. Vol. 3, *Physikalische Messmethoden*, Ed. 2, 1951. 575 pp. Vol. 4, *Physikalische-Chemie Analyse in Betrieb*, 1953. 621 pp. Akademische Verlagsgesellschaft Geest and Portig, Berlin (East Zone).
1103. Adolf Leonhard, *Selbsttätige Regelung*. Springer-Verlag, Berlin, 1949. 284 pp.
1104. R. H. Macmillan, *An introduction to the theory of control in mechanical engineering*. Cambridge University Press, Cambridge, 1951. 195 pp.
1105. Ministry of Supply, Technical Information and Documents Unit, Servomechanisms: selected government research reports, Vol. 5. H. M. Stationery Office, London, 1951. 17 reports in 294 pp.
1106. Winfried Oppelt, *Grundgesetze der Regelung*. Wolfenbütteler Verlagsanstalt, Wolfenbüttel-Hannover, 1947. 118 pp., bibliography, 35 titles.
1107. Winfried Oppelt, *Stetige regelvorgänge*. Wolfenbütteler Verlagsanstalt, Wolfenbüttel-Hannover, 1949. 144 pp., bibliography, 48 titles.
1108. Winfried Oppelt, *Kleines Handbook technischer Regelvorgänge*. Verlag Chemie, Weinheim/Bergstr., 1954. 447 pp.
1109. R. Oldenbourg and H. Sartorius, *Dynamik selbsttätiger Regelungen*. Ed. 1, R. Oldenbourg, Munich, 1944. 283 pp. Transl. H. L. Mason, *The dynamics of automatic control*. American Society of Mechanical Engineers, New York, 1948.
1110. R. Oldenbourg and H. Sartorius, *Dynamik selbsttätiger Regelungen: Vol. 1, Allgemeine und mathematische Grundlagen stetige und unstetige Regelungen Nichtlineartaten*. R. Oldenbourg, Munich, 1951. 258 pp.
1111. J. Peters, *Einschwingvorgänge Gegenkopplung Stabilität*. Springer-Verlag, Berlin, 1954. 181 pp.
1112. F. Strecker, *Praktische Stabilitätsprüfung mittels Ortskurven und numerischer Verfahren*. J. Springer, Berlin, 1950. 189 pp.
1113. A. Tustin, editor, *Automatic and manual control*. Academic Press, New York, 1952. 640 pp., bibliography. Papers contributed to the conference at Cranfield, 1951.

2.3. Books; Automatic Control
1100. British and German Publications (Cont.)

- 1114. A. Tustin, Direct current machines for control systems. E. and F. Spon, London, 1952. 306 pp.
- 1115. J. C. West, Textbook of servomechanisms. English University Press, London, 1953. Macmillan and Co., New York, 1954. 238 pp.
- 1116. Guido Wünsch, Regler für Druck und Menge. R. Oldenbourg Verlag, Munich, 1930. 207 pp.

1200. Foreign publications, except British and German

- 1200. P. Colombani, G. Lehmann, J. Loeb, A. Pommell and F. H. Raymond, Analyse, synthese et position actuelle de la question des servomechanismes. Ste d'Edition d'Enseignement Supérieur, Paris, 1949. Vol. 1, 174 pp.; Vol. 2, 166 pp.
- 1201. B. I. Domanskii, Vvedenie v avtomatiku i telemekhaniku. Gos. Energ. izd., Leningrad, 1950. 384 pp. (Textbook of automatic control).
- 1202. S. G. Gerassimow, E. G. Dudnikow and S. F. Tschistjakow, Automatische Regelung von Kesselanlagen. Verlag Technik, Berlin, 1952. 353 pp. (Transl. from Russian).
- 1203. Fernand Ghilardi, Technique de l'automatisme appliquée au chauffage à la réfrigération et au conditionnement de l'air. Giradot, Paris, 1948. 288 pp.
- 1204. Jens R. Jensen, Dimensioneringsmetoder for servomekanismer. Teknisk Forlag, Copenhagen, 1950. 103 pp., bibliography.
- 1205. V. S. Lossievskii, Osnovy avtomaticheskogo regulirovaniya technologicheskikh protsessov. Moscow, 1949. 226 pp., bibliography. (Fundamentals of automatic control).
- 1206. P. Naslin, Les systemes asservis. Editions de la Revue d'Optique, Paris, 1951. 328 pp.
- 1207. Gilbert Nasse, Circuit de regulation. Hermann, Paris, 1949. 119 pp., bibliography. (Servomechanisms).
- 1208. V. A. Nikitin, Kontrol'no-izmeritel'nye pribori v neftepererabotke, Moscow, 1948. 431 pp., bibliography. (Petroleum refining; process control).

2.3. Books; Automatic Control

1200. Foreign publications except British and German (Cont.)

1209. M. J. Pelegrin, *Calcul statistique des systemes asservis*. Publications Scientifiques et Techniques du Ministère de L'Air No. 285, Paris, 1953. 156 pp.
1210. W. W. Solodonikoff, *Introduction to the Statistical theory of automatic control systems*. In Russian. Gos. energ. izd., Moscow, 1952. 367 pp.
1211. I. I. Solov'ev, *Avtomatizatsiya energeticheskikh system. Dopushechno v kachestve uchebnogo posobiya dlya energ. i elektrotekhn. vuzov i fakul'tetov*. Gos. energ. izd., Moscow, 1950. 500 pp. (Automatic control in the electric power industry; a textbook).
1212. B. S. Sotsakov, *Elementy avtomaticheskoi i telemekhanicheskoi apparaty*. Gos. energ. izd., Moscow, 1950. 660 pp. (Design of automatic control devices).
1213. Y. Takahashi, *The theory of automatic control*. In Japanese. Iwanami, 1954.

1300. Terminology

1300. American Institute of Electrical Engineers, Feedback Control Systems Committee, *Proposed symbols and terms for feedback control systems*. Electrical Engineering 70, 905-909, 1951. (Revision issued, not published, April 1954).
1301. American Society of Mechanical Engineers, *Automatic control terminology*. New York, 1954.
1302. British Standards Institution, London, *Glossary of terms used in automatic controlling and regulating systems*. Section 2, *Process control*, 1949, 22 pp. British Standard 1523:1949. Section 3, *Kinetic control*, 1954, 23 pp. British Standard 1523:1954. Section 5, *Components of servomechanisms*, 1954, 32 pp. British Standard 1523:1954.
1303. Deutscher Normenausschuss, *Regelungstechnik*. (Control engineering terms and concepts.) Berlin, DIN 19226, 1954. 16 pp.

2.3. Books; Automatic Control
1300. Terminology (Cont.)

- 1304. P. Gmelin and F. Ranke, Versuch einer Vereinheitlichung und Verdeutschung der Bezeichnungen in Regelwesen (Attempt at simplifying and Germanizing the terms used in control work). Zeitschrift für Technische Physik, vol. 18, 1937, pp. 406-409.
- 1305. L. A. Ledgett, Terminology applied to automatic control combinations. American Society of Mechanical Engineers, Paper No. 54-IRD-7, 1954. 6 pp.
- 1306. H. L. Mason, the integration of concepts in the terminology of measurement and control. American Society of Mechanical Engineers, Paper No. 54-IRD-3, 1954. 11 pp. Extensive bibliography.
- 1307. VDI - Fachausschuss für Regelungstechnik, Regelungstechnik, Begriffe und Bezeichnungen (Technology, conceptions and notations). VDI-Verlag. G.m.b.H., Berlin, 1944. 63 pp. (Available in Engineering Societies Library, New York, Carnegie Library, Pittsburgh, and John Crerar Library, Chicago).
- 1308. A. J. Yound, ASME and BSI terminologies for process control. American Society of Mechanical Engineers, Paper No. 54-IRD-10, 1954, 17 pp.

2.3. Books; Instruments and Measurement
2000. Aeronautics; Guided Missiles; Navigation

Note: See also, Radio.

- 2000. Aircraft instruments. Technical Manual 1-413, War Department, Washington, 1942. 234 pp.
- 2001. R. H. Drake, Aircraft electrical systems, hydraulic systems, and instruments. MacMillan Co., New York, 1949. 393 pp.
- 2002. Benjamin Dutton, Navigation and nautical astronomy. 10th Ed., revised by Edwin A. Beito. U. S. Naval Institute, Annapolis, Md., 1951. 850 pp.
- 2003. George E. Irwin, Aircraft instruments. McGraw-Hill, New York, Ed. 2, 1944. 607 pp.
- 2004. Assen Jordanoff, Dials and flight. Harper and Bros., New York, 1947. 359 pp.

2.3. Books; Instruments and Measurement
2000. Aeronautics; Guided Missiles; Navigation (Cont.)

2005. A. F. Lesokhin, Dopuski i tekhnicheskie izmerenie: Dopolucheno v kachestve uchebnogo posobiya dlya aviatcionno tekhnikumov. Oboron-giz, Moscow, 1946. 474 pp. (Tolerances in measurement; tolerances in flight training instruments).
2006. Thoburn, C. Lyon, Practical air navigation. Published by author, Silver Spring, Md., 1948. 356 pp.
2007. Arthur L. Rawlings, Theory of the gyroscopic compass and its deviations. Macmillan Company, New York, Ed. 2, 1944. 182 pp.
2008. P. Sandretto, Principles of aeronautical radio engineering. McGraw-Hill, New York, 1942. 414 pp.
2009. C. G. Stewart, Aircraft instruments. Chapman and Hall, London, 1930. 269 pp.
2010. Bernard Voituriez, Instruments de bord d'avion. Vol. 1, Instruments gyroscopiques de controle de vol. Blondel la Rougery, Paris, 1950.
2011. Earl F. Werner, Aircraft instrument maintenance. McGraw-Hill, New York, 1948. 466 pp.
2012. Alfred R. Weyl, Guided missiles: Evolution and principles of guided and directed missiles for military and peaceful purposes. Temple Press, London, 1949. 139pp.

2100. Chemistry

2100. Louis H. Ahrens, Spectrochemical analysis. Addison-Wesley Press, Inc., Cambridge, Mass., 1950. 340 pp.
2101. Heinz Appelt, Einführung in die mikroskopischen untersuchungsmethoden. Akademische Verlagsgesellschaft Athenaion, Potsdam, 1950. 228 pp., 16 plates.
2102. R. Bowling Barnes, Robert C. Gore, Urner Liddel, and Van Zandt Williams, Infrared spectroscopy, industrial applications and bibliography. Reinhold Publishing Corp., New York, 1944. 236 pp.
2103. Frederick J. Bates, Polarimetry, saccharimetry, and the sugars. Circular 440, National Bureau of Standards, Washington, D. C., 1942. 810 pp.

2.3. Books; Instruments and Measurements
2100. Chemistry (Cont.)

2104. Manson Benedict and Clarke Williams, Engineering developments in the gaseous diffusion process. National Nuclear Energy Series; McGraw-Hill, New York, Ed. 1, 1949. 127 pp.
1. Recording Mass Spectrometer for Process Analysis.
2. Recording Ionization Chamber.
3. Magnetic Gear for Torque Transfer to a Closed System.
4. Mass Spectrometers for Leak Detection.

2105. Walter G. Berl, Physical methods in chemical analysis. Academic Press, Inc., New York, 1950-1951. (2 vols), 664 and 640 pp.

2106. George G. Blake, Conductometric analysis at radio-frequency: A new technique for titration (including a chapter on moisture meters). Chapman & Hall, Ltd., London, 1950. 109 pp.

2107. Richard C. L. Bosworth, Physics in chemical industry. Macmillan & Co., Ltd., London, 1950. 928 pp.
I. Mathematical Introduction (7 chapters)
II. Properties of Matter (10 chapters)
III. Movement of Matter (10 chapters)
IV. Scientific Instruments (9 chapters).

2108. Charles A. Brown and F. W. Zerban, Physical and chemical methods of sugar analysis. John Wiley & Sons, Inc., New York, Ed. 3, 1941. 1353 pp.

2109. K. V. Chmutov, Tekhnika fiziko-khimicheskogo issledovaniya. Moscow, 1948. 320 pp. (Laboratory techniques in physical chemistry).

2110. Malcolm Dole, Glass electrode: Methods, applications and theory. John Wiley & Sons, Inc., 1941. 332 pp.

2111. Adalbert Farkas and H. W. Melville, Experimental methods in gas reactions. Macmillan & Co., Ltd., London, 1939.

2112. F. Fuhrmann, Elektrometrische pH-Messung mit kleinen Lösungsmengen. Julius Springer Verlag, Vienna, 1941 (Reprinted 1945). 139 pp.

2113. Thomas R. P. Gibbs, Optical methods of chemical analysis. McGraw-Hill, New York, 1942. 391 pp.

2114. John H. Harley and Stephen E. Wiberly, Instrumental Analysis. John Wiley & Sons, Inc., New York, 1954. 440 pp.

2.3. Books; Instruments and Measurement
2100. Chemistry (Cont.)

2115. Jaroslav Heyrovsky, Polarographie: Theoretische Grundlagen, praktische Ausführung und Anwendungen der Elektrolyse mit der tropfenden Quecksilber-elektrode. Julius Springer Verlag, Vienna, 1941 (Reprinted 1964). 522 pp.

2116. Jaroslav Heyrovsky, Polarographisches Praktikum, Springer-Verlag, Berlin, 1948. 118 pp. (Vol. 4 of Anleitungen für die chemische Laboratoriums-Praxis, R. Brill, editor).

2117. William S. Hoffman, Photometric clinical chemistry. Central Scientific Co., Chicago, 1941. 254 pp.

2118. Isaak M. Kolthoff and H. A. Laitinen, pH and electro titrations; Colorimetric and potentiometric determination of pH. Potentiometry, conductometry, and voltammetry (Polarography). Outline of electro-metric titrations. John Wiley & Sons, Inc., Ed. 2, 1941. 190 pp.

2119. Isaak M. Kolthoff and J. J. Lingane, Polarography: Polarographic analysis and voltammetry; amperometric titrations. Interscience Publishers, Inc., 1941 (reprinted 1946). 510 pp.

2120. Gustav Kortüm, Kolorimetrie und Spektralphotometrie. Springer-Verlag, Berlin, Ed. 2, 1948. 236 pp. (Vol. 2 of Anleitungen für die chemischen Laboratoriumspraxis, R. Brill, editor).

2121. H. Laporte, Beobachtung und Registrierung veränderlicher Vorgänge durch Messapparaten. 1952. 117 pp. (Observation and recording of fluctuating reactions).

2122. M. Guy Mellon, editor, Analytical absorption spectroscopy: Absorptometry and colorimetry. John Wiley & Sons, Inc., New York, 1950. 618 pp.

2123. Ralph H. Mueller, American apparatus, instruments and instrumentation. Industrial and Engineering Chemistry, Analytical Edition, 12, 571-630 (1940); bibliography, 50 references.
Ralph H. Mueller, Instrumental methods of chemical analysis. Ibid, 3-46, 667-754; bibliography, 313 references; directory of instruments, pp. 19-42.

2124. Norman H. Nachtrieb, Principles and practice of spectro-chemical analysis. McGraw-Hill, New York, Ed. 1, 1950. 324 pp.

2.3. Books; Instruments and Measurement
2100. Chemistry (Cont.)

2125. Joseph Railly and William N. Rae, Physicochemical methods. D. Van Nostrand Co., New York, Ed. 5, 1954.
 Vol. 1, Measurement and Manipulation, 760 pp.
 Vol. 2, Practical Measurements, 800 pp.
 Vol. 3, Supplementary, 690 pp.

2126. Clement J. Rodden, editor, Analytical chemistry of the manhattan project. National Nuclear Energy Series; McGraw-Hill Book Co., New York, Ed. 1, 1949. 748 pp.
 I. Analytical Chemistry of Elements Studied on the Manhattan Project, Chapters 1-22.
 II. Special Analytical Laboratory Equipment and Techniques, Chapters 23-29.

2127. Ralph A. Sawyer, Experimental spectroscopy. Prentice-Hall, Inc., New York, Ed. 2, 1951. 358 pp.

2128. W. Seith and K. Ruthardt, Chemische Spektralanalyse. Springer-Verlag, Berlin, 1949. 173 pp. (Vol. 1 of Anleitungen für die chemische Laboratoriumspraxis, R. Brill, editor.)

2129. Pierce W. Selwood, Magnetochemistry. Interscience Publishers, New York, 1943. 287 pp.

2130. Foster D. Snell and Cornelia T. Snell, Colorimetric methods of analysis including some turbidimetric and nephelometric methods. D. Van Nostrand Co., New York, Ed. 3, 1948.
 Vol. 1, Theory; Instruments; pH; 239 pp.
 Vol. 2, Inorganic; 950 pp.

2131. Mark von Stackelberg, Polarographische Arbeitsmethoden. Berlin, 1950.

2132. Trevor I. Williams, Introduction to chromatography. Chemical Publishing Co., Brooklyn, New York, 1947. 100 pp.

2200. Computers; Analog; Digital; Punched Cards

2200. A. D. Booth and K. H. V. Booth, Automatic Digital calculations. Academic Press, New York, 1953. 231 pp.

2201. B. V. Bowden, editor, Faster than thought: a symposium on digital computing machines. Sir Isaac Pitman & Sons, Ltd., London, 1953. 414 pp.

2.3. Books; Instruments and Measurement
2200. Computers (Cont.)

- 2202. Colloques international aux du Centre National de la Recherche Scientifique, Les machines à calculer et la pensée humaine. Service des Publications du Centre National de la Recherche Scientifique, Paris, 1953. 570 pp.
- 2203. J. Crank, The differential analyzer. Longmans, Green and Company, Ltd., London, 1948. 137 pp.
- 2204. F. Gruenberger, Computing manual (primarily for punched card computing). The University of Wisconsin Press, Madison, Ed. 3, 1952. 123 pp.
- 2205. F. Gruenberger, Diagrams on punched card computing. The University of Wisconsin Press, Madison, 1954. 108 pp.
- 2206. D. R. Hartree, Calculating instruments and machines. University of Illinois Press, Urbana, Ill., 1949. 139 pp.
- 2207. M. Knoll and B. Kazan, Storage tubes. John Wiley & Sons, New York, 1952. 143 pp. 99 references.
- 2208. G. A. Korn and T. M. Korn, Electronic analog computers. McGraw-Hill, New York, 1952. Ed. 2 to appear in 1956. 378 pp.
- 2209. K. S. Lion, Elements of instrumentation, I - Mathematically operating elements (analog methods). Laboratory for Applied Biophysics, Mass. Inst. of Technology. 1954. 117 pp.
- 2210. Walther Meyer zur Capellen, Mathematische instrumente. Akademische Verlags-Gesellschaft, Leipzig, Ed. 3, 1949. 339 pp.
- 2211. Walther Meyer zur Capellen, Instrumentelle mathematik für den ingenieur. Verlag W. Girardet, Essen, Germany, 1952. 383 pp.
- 2212. Francis J. Murray, The theory of mathematical machines. King's Crown Press, New York, Ed. 2, 1948. 139 pp.
- 2213. Office of Naval Research, A survey of automatic digital computers. Report No. 111293, Office of Technical Services, Washington 25, D. C., 1953. 109 pp.
- 2214. George W. Patterson, editor, Theory and techniques for design of electronic digital computers. Lectures given in 1946, Moore School of Electrical Engineering, University of Pennsylvania, Philadelphia, 1947-1948. 4 volumes.

2.3. Books; Instruments and Measurement
2200. Computers (Cont.)

- 2215. F. H. Raymond, *Le calcul analogique*. Société d'Electronique et d'Automatismes, Courbevoie, France, 1952. 129 pp.
- 2216. Walter W. Soroka, *Analog methods in computation and simulation*. McGraw-Hill, New York, 1954. 390 pp.
- 2217. W. W. Stifler, Jr., editor, *High speed computing devices*. Engineering Research Associates, Inc., McGraw-Hill, New York, Ed. 1, 1950. 451 pp.
- 2218. M. V. Wilkes, S. Gill and D. J. Wheeler, *Preparation of programs for an electronic digital computer*. Addison-Wesley Press, Boston, Mass., 1951. 167 pp.

2300. Electricity; Magnetism

- 2300. William Alexander, *Electrical instruments and measurements*. Cleaver-Hume Index Offices, London, 1952. 352 pp.
- 2301. American Society for Testing Materials, *Symposium on magnetic testing*. Special technical publication No. 85. Philadelphia, 1948-1949. 198 pp.
- 2302. N. F. Astbury, *Industrial magnetic testing*. The Institute of Physics, London, 1952. 132 pp.
- 2303. Perry A. Borden and Gustave M. Thynell, *Principles and method of talemstering*. Reinhold Publishing Corp., New York, 1948. 230 pp.
- 2304. J. Bubert, *Elektrische Messgeräte*. Vol. 1. *Wirkungsweise, Eigenschaften und Verwendbarkeit*. C. F. Winter, Füssen, 1950. 215 pp.
- 2305. Harvey L. Curtis, *Electrical measurements: Precise comparisons of Standards and absolute determinations of the units*. McGraw-Hill, New York, Ed. 1, 1947. 302 pp.
- 2306. C. V. Drysdale and A. C. Jolley, *Electrical measuring instruments*. E. Benn, Ltd., London, 1924. 2 vols. 2nd edition revised by G. F. Tagg, John Wiley & Sons, New York, Part I, 1952. 578 pp.
- 2307. Kenelm W. E. Edgcumbe and F. E. J. Ockenden, *Industrial electrical measuring instruments*. Sir Isaac Pitman & Sons, Ltd., London, Ed. 3, 1933. 553 pp.

2.3. Books; Instruments and Measurement
2300. Electricity (Cont.)

- 2308. Edison Electric Institute, American standard code for electricity meters. New York, Ed. 4, 1941. 128 pp.
- 2309. J. L. Ferns, Meter engineering. Sir Isaac Pitman & Sons, Ltd., London, Ed. 4, 1946. 350 pp.
- 2310. J. A. Fleming, editor, Physics of the earth. VIII. Terrestrial Magnetism and electricity. McGraw-Hill, New York (For National Research Council). Ed. 1, 1939. 794 pp.
- 2311. General Electric Co., Manual of electric instruments; construction and operating principles. Schenectady, 1949. 140 pp.
- 2312. E. W. Goldring, Electrical measurements and measuring instruments. Sir Isaac Pitman & Sons, Ltd., London, Ed. 3, 1940 (reprinted 1948). 828 pp.
- 2313. Hans F. Grave, Gleichrichtermesstechnik; Gleichrichter und Umoformer für Messzwecke und ihre Anwendung. Geest & Portig, Leipzig, 1950. 238 pp.
- 2314. Robert Q. Gregg, Harry E. Hammond and Robert H. Frost, Manual of electric measurements. Addison-Wesley Press, 1950. 150 pp.
- 2315. B. Hague, Alternating-current bridge methods. Sir Isaac Pitman & Sons, Ltd., London, Ed. 5, 1943. 616 pp.
- 2316. B. Hague, Instrument transformers. Sir Isaac Pitman & Sons, Ltd., London, 1936. 656 pp.
- 2317. Forest K. Harris, Electrical measurements. John Wiley & Sons, Inc., New York, 1952. 784 pp.
- 2318. W. Jellinghaus, Magnetische Messungen an ferromagnetischen Stoffen. 1952, 150pp.
- 2319. D. Karo, Electrical measurements and the calculation of the errors involved. MacDonald & Co., Ltd., London, 1950.
- 2320. R. M. Kerchner and G. F. Corcoran, Electrical power metering. John Wiley & Sons, Inc., New York, 1951.
- 2321. H. Kunze, Elektrische Messinstrumente mit Drahspul-Drehmagnet- und Dreheisen-Messwerken: Schaltung, Widerstandsberechnung, Eichung, 1949. 101 pp.

2.3. Books; Instruments and Measurement
2300. Electricity (Cont.)

2322. R. Langbein and G. Werkmeister, *Electrische Messgeräte: Genauigkeit und Einflussgrößen*. Akademische Verlagsgesellschaft, Leipzig, 1943. 238 pp.

2323. Frank A. Laws, *Electrical measurements*. McGraw-Hill, New York, Ed. 2, 1938. 739 pp.

2324. Edwin S. Lincoln, *Electrical measuring instruments: Measurement and surveys*. Essential Books, New York, 1945. 284 pp.

2325. Pasquale Mastandrea, *Strumenti di misura elettrici (Electrical measuring instruments)*. Societa Editrice Internazionale, Torino, Italy, 1947. 298 pp.

2326. Walter C. Michels, *Advanced electrical measurements*. D. Van Nostrand Co., New York, Ed. 2, 1947. 347 pp.

2327. Albert Palm, *Elektrische Messgeräte und Messeinrichtungen*. Julius Springer Verlag, Berlin, Ed. 3, 1948. 295 pp.

2328. Albert Palm, *Elektrostatische Messgeräte*. Springer Verlag, Berlin, 1951. 78 pp.

2329. Albert Palm and Heinz Roth, *Registrierinstrumente*. Springer Verlag, Berlin, 1950. 220 pp.

2330. Rudolf Peintinger, *Elektrische Messkund*. R. Bohmann, Vienna, 1948. 193 pp.

2331. Paul M. Pflier, *Elektrische Messgeräte und Messverfahren*. Springer Verlag, Berlin, 1951. 193 pp.

2332. Dorus P. Randall, *Electrical instruments and measurements*. Published by the author, Syracuse, New York, Ed. 2, 1952. 370 pp.

2333. P. Roberjot, *Travaux pratiques d'électricité industrielle. Vol. 1. Mesures industrielles*. H. Dunod, Paris, Ed. 3, 1948. 312 pp.

2334. J. Rosslyn, *Electric relays*. Chemical Publishing Co., Brooklyn, New York, 1941. 184 pp. (Includes magnetic, thermionic and photoelectric relays).

2335. Herbert C. Roters, *Electromagnetic devices*. John Wiley & Sons, New York, 1941. 561 pp.

2.3. Books; Instruments and Measurement
2300. Electricity (Cont.)

2336. W. Schwerdtfeger, Elektrische Messtechnik. K. Gleichstrommesstechnik. II. Wechselstrommesstechnik. C. F. Winter Verlag, Leipzig, Vol. 1, Ed. 5, 1949. Vol. II, Ed. 3, 1948.

2337. G. P. Shkurin, Spravochnik po elektroizmeritel'nym i radioizmeritel'nym priborom. Voenno-morskoe izdatel'stvo, Moscow, 1950. 510 pp. Bibliography. (Electrical and radio measurements, a Navy publication).

2338. Francis B. Silsbee, Extension and dissemination of the electrical and magnetic units by National Bureau of Standards. National Bureau of Standards Circular C531, 1952. 33 pp.

2339. Arthur W. Smith, Electrical measurements in theory and application. Ed. 4, McGraw-Hill, New York, 1954. 370 pp.

2340. M. B. Stout, Basic electrical measurements. Prentice-Hall Publishing Co., New York, 1950. 504 pp.

2341. Theodor Walcher, Trockengleichrichter-Vielfachmessgerät. Springer Verlag, Vienna, 1950. 144 pp. (Dry rectifier, measuring apparatus of many uses.)

2400. Electronics; Oscilloscopes; Transistors; Vacuum Tubes

2400. E. H. W. Banner, Electronic measuring instruments. Chapman & Hall, London, 1954. 395 pp.

2401. A. H. W. Beck, Thermionic valves. Cambridge University Press, 1954. 570 pp.

2402. F. Benz, Messtechnik für Funkingenieure. Springer Verlag, Vienna, 1952. 528 pp.

2403. L. Ch. G. van den Berg, Electronenstraalsoscilloscillografen en hun toepassingen. J. H. Gottmer, Haarlem, 1948. 135 pp.

2404. E. Milton Boone, Circuit theory of electron devices. John Wiley & Sons, New York, 1953. 483 pp.

2405. L. De Broglie, Optique électronique et corpusculaire. 1950. 276 pp.

2.3. Books; Instruments and Measurement
2400. Electronics (Cont.)

2406. Ernst Brüche and A. Rechnagel, *Elektronengeräte: Prinzipien und Systematik*. Springer Verlag, Berlin, 1941. 447 pp. Bibliography. (Translated into Russian in 1949). (Electron optics).
2407. Harry E. Clifford and Alexander H. Wing, editors, *Electronic circuits and tubes*. McGraw-Hill, New York, for Cruft Laboratory, Harvard University, 1947. 948 pp.
2408. Austin V. Eastman, *Fundamentals of vacuum tubes*. McGraw-Hill, New York, Ed. 3, 1949. 644 pp.
2409. Wm. C. Elmore and Matthew Sands, *Electronics: Experimental techniques*. McGraw-Hill, New York, Ed. 1, 1949. 417 pp.
2410. Volker Fritsch, *Messverfahren der funksuchung*. R. Oldenbourg Verlag, Munich, 1943. 220 pp. Reprint by J. W. Edwards, Ann Arbor, Michigan, 1945. (Methods of radio prospecting).
2411. S. Gerzonowica, *Galvanometros y oscilografos*. University of Montevideo, 1943; with chapter bibliographies.
2412. W. A. Geyger, *Magnetic amplifier circuits*. McGraw-Hill, New York, 1954. 277 pp.
2413. Truman S. Gray, *Applied electronics*. John Wiley & Sons, New York, Ed. 2, 1954. 881 pp.
2414. Ivan A. Greenwood, Jr., J. Vance Holdam, Jr. and Duncan McRae, Jr., *Electronic instruments*, (M.I.T. Radiation Lab. Series.) McGraw-Hill, New York, 1948. 721 pp.
2415. Paul Hatschek (translated by Arthur Palm), *Electron optics*. American Photographic Publishing Co., Boston, Ed. 2, 1948. 183 pp.
2416. August Hund, *High frequency measurements*. McGraw-Hill, New York, Ed. 2, 1951. 676 pp.
2417. Paul E. Klein, *Elektronenstrahl - Oszillosraphen*. Weidmannsche Verlagsbuchhandlung, Berlin, Ed. 2, 1948; also *Zeit- und Kurzzeitmessungen mit Elektronenstrahl - Oszillosraphen*, 1949. 60 pp.
2418. Ulrik Krabbe, *Transductor amplifier: Its manner of action and use for automatic regulation*. Hafner Publishing Co., 1947. 176 pp. (Appendix: Yttenberg's Theory of Automatic Regulation).

2.3. Books, Instruments and Measurement
2400. Electronics (Cont.)

- 2419. Andrew W. Kramar, Elementary engineering electronics. Instruments Publishing Co., Pittsburgh, 1945. 340 pp.
- 2420. Leonard Krugman, Fundamentals of transistors. John F. Rider, Inc., New York, 1954. 160 pp.
- 2421. F. Langford-Smith, Radiotron designer's handbook. Reproduced by Radio Corporation of America, Harrison, N. J., Ed. 4, 1952. Originally published by Wireless Press, Sidney, Australia.
- 2422. Stanley K. Lemer, Cathode ray tube handbook. Sir Isaac Pitman & Sons, Ltd., London, Ed. 2, 1947. 103 pp.
- 2423. Otto Limann, Röhrenvoltmeter. Radio-Praktiker-Bücherei, No. 33, 1951. 64 pp.
- 2424. Walter Möller, Braunsche Röhre: Handbuch für praktische Arbeiten und Demonstrationsversuche mit dem Kathodenoszilloskop. Schneider Verlag, Berlin-Tempelhof, 1949, Ed. 4. 288 pp.
- 2425. Franz Moeller, Strom, Spannungs- und Phasenregelung für Messzwecke. Braun Verlag, Karlsruhe, 1949. 161 pp.
- 2426. National Bureau of Standards, New advances in printed circuits. Misc. Publication M192, 1948. 73 pp.
- 2427. Kurt Nentwig, Funk-Messpraktikum. J. Schneider, Berlin-Tempelhof; Deutsche Radio-Bücherei, No. 99, Ed. 7, 1948. 208 pp.
- 2428. J. R. Pierce, Theory and design of electron beams. D. Van Nostrand Co., New York, Ed. 2, 1954. 222 pp.
- 2429. Radio Corporation of America, RCA Tube Handbook. Harrison, N. J. 8 vols. revised regularly.
- 2430. Herbert J. Reich, Theory and applications of electron tubes. McGraw-Hill, New York, Ed. 2, 1944. 716 pp.
- 2431. John H. Reyner, Cathode ray oscilloscopes. Sir Isaac Pitman & Sons, Ltd., London, Ed. 2, 1945. 187 pp.
- 2432. Heinz Richter, Hilfsbuch für Kathodenstrahl-Oszilloskopie. Franzis-Verlag, Munich, 1950. 200 pp.

2.3. Books; Instruments and Measurement
2400. Electronics (Cont.)

2433. John F. Rider and S. D. Uslan, Encyclopedia on cathode-ray oscilloscopes and their uses. John Francis Rider, Publisher, Inc., New York, 1950. 992 pp.

2434. John F. Rider and Alfred W. Barber, Vacuum tube voltmeters. Rider & Co., London, Ed. 2, 1951. 422 pp.

2435. Jacob H. Ruiter, Jr., Modern oscilloscopes and their uses. Rinehart & Co., New York, 1949. 326 pp.

2436. Josef Schintlmeister, Elektronenröhre als physikalische Messgerät; Röhrenvolt-, Galvano-, Elektrometer. Springer Verlag, Vienna, Ed. 2, 1943. 197 pp.

2437. Helmut Schweitzer, Röhremesstechnik: Brauchbarkeits- und Fehlerbestimmung an Radioröhren. Franzis-Verlag, Munich, 1950. 192 pp.

2438. Richard F. Shea, Principles of transistor circuits. John Wiley & Sons, New York, 1953. 535 pp.

2439. A. Sommer, Photoelectric cells (tubes). Chemical Publishing Co., Brooklyn, New York, 1953. 104 pp.

2440. Karl R. Spangenberg, Vacuum tubes. McGraw-Hill, New York, 1948. 860 pp.

2441. Il'ia S. Stekol'nikov, Elektronnyi oscillograph. Gos. energ. izd. Moscow, Ed. 2, 1949. 416 pp.

2442. F. E. Terman and J. M. Pettit, Electronic measurements. McGraw-Hill, New York, Ed. 2, 1952. 707 pp.

2443. Harry F. Trewman, Electronics in the factory: Electronic devices for timing, counting, measurement, process control, inspection, etc., with a survey of medical and surgical aids. Sir Isaac Pitman & Sons, Ltd., London, 1949. 183 pp.

2444. R. C. Walker, Electronic equipment and accessories. Chemical Publishing Co., Brooklyn, New York, 1945. 393 pp.

2445. Ronald C. Walker, Photoelectric cells in industry. Sir Isaac Pitman & Sons, Ltd., London, 1948. 517 pp.

2446. William Wilson, Cathode ray oscillograph in industry. Chapman & Hall, Ltd., London, Ed. 3, 1948. 252 pp.

2.3. Books; Instruments and Measurement
2400. Electronics (Cont.)

- 2447. Uri Zelbstein, Applications industrielles des mesures électroniques. Montligeon, Paris, 1951. 350 pp.
- 2448. Otto Zinke, Hochfrequenz-Messtechnik. Hirzel Verlag, Leipzig. 1947. 253 pp.
- 2449. Vladimir K. Zworykin and E. G. Ramberg, Photoelectricity and its applications. John Wiley & Sons, Inc., New York, 1949. 494 pp. (Previous editions, by V. K. Zworykin and E. D. Wilson, had the title Photocells and their applications).

2500. Experiments, evaluation and design of; Statistics

- 2500. American Society for Testing Materials, Manual for presentation of data. 1940 (reprinted 1949). 73 pp.
- 2501. David F. Boltz, editor, Modern instrumental analysis. Edwards Bros., Inc., Ann Arbor, Michigan, 1949. 191 pp.
- 2502. Henri P. M. Bouasse, Construction, description et emploi des appareils de mesure et d'observation. Dalagrave, Paris, Ed. 3, 1935. 629 pp.
- 2503. P. W. Bridgman, Dimensional analysis. Yale University Press, New Haven, 1931. 113 pp.
- 2504. K. A. Brownlee, Industrial experimentation. Chemical Publishing Co., Brooklyn, Ed. 3, 1949. 194 pp.
- 2505. C. Eisenhart, M. W. Hastay and W. A. Wallis, editors, Techniques of statistical analysis. McGraw-Hill, New York, 1947. 473 pp.
- 2506. Robert A. C. Esnault-Pelterie, Dimensional analysis (translated from French by the author). F. Rouge, Lausanne, 1950. 270 pp. Supplement, "Dimensional Analysis and Metrology (the Georgi System)", 1950. 112 pp.
- 2507. R. A. Fisher, Statistical methods for research workers. Oliver and Boyd, London, 1941. 339 pp.
- 2508. R. A. Fisher, The design of experiments. Oliver and Boyd, London, 1941. Ed. 6, 242 pp.

2.3. Books; Instruments and Measurement
2500. Experiments (Cont.)

2509. H. B. Mann, Analysis and design of experiments. Dover, New York, 1949. 198 pp.

2510. M. Maroney, Facts from figures. Penguin Books, 1951. 472 pp. (Pelican Books, A286).

2511. Kurt Raentsch, Genauigkeit von Messung und Messgeräten. C. Hanser Verlag, Munich, 1950. 83 pp.

2512. Lucius Tuttle and John Satterly, Theory of measurements. Longmans-Green & Co., London, 1925. 333 pp.

2513. E. B. Wilson, An introduction to scientific research, McGraw-Hill, New York, 1952. 375 pp.

2514. P. M. Woodward, Probability and information theory, with applications to radar. Pergamon Press, London, 1953. 128 pp.

2515. O. G. Worthing and J. Geffner, Treatment of experimental data. John Wiley & Sons, New York, 1943. 342 pp.

2516. W. J. Youden, Statistical methods for chemists. John Wiley & Sons, New York, 1951. 126 pp.

2600. Flow, fluid; Hydraulics

2600. Herbert Addison, Hydraulic measurements: A manual for engineers. Chapman & Hall, Ltd., London, 1940. 301 pp.

2601. Joint A.G.A.-A.S.M.E. Committee on orifice coefficients. History of orifice meters and the calibration, construction, and operation of orifices for metering. American Society of Mechanical Engineers, New York, 1935. 63 pp.

2602. American Gas Association, New York, Gas Measurement Committee, Recommendation covering use of certain types of orifice meters in measurement of natural gas. Report No. 2, Revised 1948, 46 and 11 pp.

2.3. Books; Instruments and Measurement
2600. Flow, fluid (Cont.)

2603. American Society of Mechanical Engineers, New York, Fluid meters; Report of ASME special research committee on fluid meters. 3 vols., 1931-1937:
I. Theory and Application (ed. 4, 1937).
II. Description of Meters, 1931.
III. Selection and Installation, 1933.

2604. Association Française de Normalisation, Mesure des débits instantanés des fluides (Measurement of the instantaneous flow of fluids) NF x10-01. 1949, Paris. 77 pp.

2605. H. S. Bean, Gas-measuring instruments. U. S. National Bureau of Standards Circular 309, 1926. 109 pp.

2606. British Rheologists' Club, Principles in rheological measurement. Thomas Nelson & Sons, New York, 1949.

2607. British Standards Institution, British standard code for flow measurement. British Standard 1042-1943. London. 64 pp. With amendments PD476, March, 1946 and PD825, September 1948.

2608. Bureau of Naval Personnel, U. S. Standards and Curriculum Division, Training. Basic hydraulics. 1945, Government Printing Office, Washington. 314 pp.

2609. Joint Committee of the California Natural Gasoline Association, The Pacific Coast Gas Association and the Southern California Meter Association, Tentative standard procedure for the measurement of natural gas with orifice meters. California Natural Gasoline Association, Los Angeles, 1935. 40 pp.

2610. H. G. Conway, Fluid pressure mechanisms. Pitman Publishing Corp., New York, 1949. 218 pp.

2611. John C. Diehl, Measurement of gases - positive displacement meters. 1936. 213 pp.

2612. John C. Diehl, editor, Orifice meter constants. American Meter Co., New York, 1936. 63 pp.

2613. Louis Gess and R. D. Irwin, Flow meter engineering handbook. The Brown Instrument Co., Philadelphia, 1946. 151 pp.

2614. H. Green, Industrial rheology and rheological structure. John Wiley & Sons, New York, 1949. 311 pp.

2.3. Books; Instruments and Measurement
2600. Flow, fluid (Cont.)

- 2615. Nathan C. Grover and Arthur W. Harrington, Stream flow: Measurements, records and their uses. John Wiley & Sons, New York, 1943. 363 pp.
- 2616. Frits Herning, Grundlagen und Praxis der Mengenstrommessung. Deutscher Ingenieur-Verlag, Düsseldorf, 1950. 129 pp.
- 2617. William Andrew Liddall, Stream gaging. McGraw-Hill, New York, 1927. 238 pp.
- 2618. A. Linford, Flow measurements and meters. E. & F. N. Spon, Ltd., London, 1949. 336 pp.
- 2619. Allen D. MacLean, The orifice meter for measurement of flow of gases and liquids. Pittsburgh Equitable Meter Co., Pittsburgh, 1938. 146 pp.
- 2620. E. Ower, The measurement of air flow. Chapman & Hall, Ltd., London, 1949. 293 pp.
- 2621. E. Curtis Richards, Principles and operation of differential fluid meters. The Brown Instrument Co., Philadelphia, 1947. 117 pp.
- 2622. L. K. Spink, Principles and practice of flow meter engineering. The Foxboro Co., Foxboro, Mass., Ed. 7, 1950. 418 pp.
- 2623. Reid F. Stearns, Robert M. Jackson, Russell R. Johnson and Charles A. Larson, Flow measurement with orifice meters. D. Van Nostrand Co., Inc., New York, 1951. 384 pp.
- 2624. VDI - Durchflussmessregeln, Deutscher Normenausschuss, Regeln für die Durchflussmessung mit genormten Düsen, Blenden und Venturidüsen. Ed. 6, 1948. 52 pp. Deutscher Ingenieur-Verlag GMBH, Düsseldorf.

2700. Geophysics; Prospecting; Seismology

Note: See also Meteorology.

- 2700. C. H. Dix, Seismic prospecting for oil. Harper & Bros., New York, 1952. 414 pp.
- 2701. B. Gutenberg and C. F. Richter, Seismicity of the earth and associated phenomena. Princeton Univ. Press, Princeton, N. J., Ed. 2, 1954. 310pp.

2.3. Books; Instruments and Measurement
2700. Geophysics (Cont.)

2702. Carl A. Heiland, Geophysical exploration. Prentice-Hall, Inc., New York, 1940. 1013 pp.

2703. Jay J. Jakosky, Exploration geophysics. Trija Publishing Co., Los Angeles, Ed. 2, 1950. 1195 pp.

2704. J. Wallace Joyce, Theory of the torsion balance with a preliminary study of a modification of the instrument to decrease time of gravity measurements. U. S. Bureau of Mines Technical Paper 546, 1933. 46 pp.

2705. Lewis D. Leet, Practical seismology and seismic prospecting. Appleton-Century Co., New York, 1938. 430 pp.

2706. Lewis L. Lomax, Geophysical prospecting for oil. McGraw-Hill, New York, 1940. 444 pp.
I. Gravitational Methods
II. Magnetic Method
III. Seismic Methods
IV. Electrical and Miscellaneous Methods.

2707. Introduction to theoretical seismology. John Wiley & Sons, Inc., New York, 1936 and 1932. 366 and 119 pp.
Vol. 1 - Geodynamics, James B. Macalwane
Vol. 2 - Seismometry, Frederick W. Schon.

2708. National Research Council, Physics of the earth. VI. Seismology, Subsidiary Committee on Seismology, Committee on Physics of the Earth, Bull. 90, NRC, Washington, 1933. 223 pp.

2709. Office of Military Government for Germany, Geophysics (FIAT Review of German Science, 1939-1946). Field Information Agencies, Technical, 1948. 237-321 pp. (Text in German; titles in German and English).
Part I. General, Julius Bartels. Earth as a Planet,
Karl Jung
Geomagnetism: Instruments, F. Errulat
Geomagnetism: Solar Physics, J. Bartels
Ionosphere, W. Dieminger
Atmospheric Electricity, H. Israel
Applied Geophysics, A. Graff and others
Part II. Seismology, W. Hiller and others
Oceanography, G. Boehmcke and others
Hydrography, W. Friedrich
Earth as a Geodetical Measuring Field, F. R. Jung
Atmospheric ozone, E. Regener.

2.3. Book; Instruments and Measurement
2700. Geophysics (Cont.)

2710. Edmond Rothe and J. P. Rothe, *Prospection géophysique*. Gauthier-Villars, Paris, 1950. 438 pp. Vol. I. Méthode seismique; application; méthode ionométrique.

2711. P. Werkmeister, *Geodätische Instrumente*. Akademische Verlagsgesellschaft, Leipzig, Ed. 2, 1950. 181 pp.

2800. Instrument Texts with Wide Coverage

2800. M. F. Behar, *Manual of instrumentation*. 3 parts in 2 vol. Instruments Publishing Co., Pittsburgh, 1932. 420 pp.

2801. M. F. Behar, *Handbook of measurement and control*. Instruments Publishing Co., Pittsburgh, Ed. 1, 1951. 288 pp. and Ed. 2, Part II, *Instruments and Automation*, V. 27, December 1954. 216 pp. Includes chapters on thermometry, pyrometry, pressure and vacuum, dimensional gaging, fluid flow, chemical analysis, speed, electrical instruments and electronic test instruments.

2802. Herbert J. Cooper, editor, *Scientific instruments*. Chemical Publishing Co., Brooklyn, vol. 1, 1946. 305 pp. Vol. 2, 1949, 306 pp.

2803. Harry B. Cronshaw, editor, *Instrument manual (No. 1)*. United Trade Press, Ltd., London, 1949. 672 pp.

2804. C. S. Draper, Walter McKay and Sidney Lees, *Instrument Engineering*. McGraw-Hill, New York.
Vol. 1 - Methods for describing the situation of instrument engineering. 1952. 269 pp.
Vol. 2 - Methods for associating mathematical solutions with common forms, 1953. 827 pp.
Vol. 3 - Applications of the instrument engineering method.
Part 1: Measurement system applications, 2 vols., chapters 28-33, 414 pp., chapters 34-35, 818 pp. 1954.

2805. Donald P. Eckman, *Industrial instrumentation*. John Wiley & Sons, Inc., New York, 1950. 396 pp.

2806. A. Elliott and J. Home Dickson, *Laboratory instruments: Their design and application*. Chapman & Hall, Ltd., London, 1951. 414 pp.

2.3. Books; Instruments and Measurement
2800. Instrument Texts (Cont.)

2807. E. B. Jones, Instrument technology, vol. 1: Measurement of pressure, level, flow and temperature. Butterworth's Scientific Publication, London, 1953. 315 pp.
2808. Paul M. Pflier, Elektrische Messungen mechanischer Größen. Springer-Verlag, Berlin, Ed. 3, 1948. 262 pp.
2809. Thomas Rhodes, Industrial instruments for measurement and control. McGraw-Hill, New York, 1941. 573 pp.
2810. Howard C. Roberts, Mechanical measurements by electrical methods. Instruments Publishing Co., Pittsburgh, Ed. 2, 1951. 357 pp.
2811. Svenska Teknologföreningen, Trans., Instruments and measurements conference, Stockholm 1952. Published by above, 1953. 450 pp. 61 papers on physics and physical chemistry, x-rays, nuclear physics, electrical measurements, mechanical measurements, and industrial control.

2900. Mass Spectrometry

Note: See also Chemistry.

2900. G. P. Barnard, Modern mass spectrometry. Institute of Physics, London, 1953. 326 pp.
2901. von Heinz Ewald and Heinrich Hintenberger, Methoden und Anwendung der massen Spektroskopie. Weinheim/Bergstrasse, Verlag Chemie, 1953. 288 pp.
2902. Mark G. Ingraham and Richard J. Hayden, A handbook on mass spectrometry. Nuclear Science Series, Report No. 14, National Academy of Sciences-National Research Council, Washington, D. C., 1954. 51 pp.
2903. Symposium, Mass spectrometry in physics research, September 1951, National Bureau of Standards Circular 522, 1953. 273 pp.

2.3. Books, Instruments and Measurement
3000. Mechanics

3000. Thomas Walter Barber, The engineer's sketch book of mechanical movements, devices, appliances, contrivances and details. E. and F. N. Spon, Ltd., London, S.W.1, Ed. 7, 1948. 355 pp.

3001. M. F. Behar (see 2801), chapter on speed measurement and control, 1954, pp. 126-134.

3002. R. F. Deimel, Mechanics of the gyroscope; the dynamics of rotation. Dover Publications, New York, 1952. Reprint of 1929 edition, 1929 reissue. 192 pp.

3003. Dalmar Publishers, Inc., Precision measurement in the metal-working industry. Albany, New York, 1949. Vol. 1, 264 pp.; Vol. 2, 290 pp.

3004. E. S. Ferry, Applied gyrodynamics. John Wiley & Sons, New York, 1933. 277 pp.

3005. Chester H. Gibbons, Materials testing machines. Instruments Publishing Co., Pittsburgh, 1935. 89 pp.

3006. R. Grammel, Kreisel: Seine Theorie und seine Anwendungen, Springer-Verlag, Berlin, 1950. Vol. 1, Theorie des Kreisels, 281 pp. Vol. 2, Anwendungen des Kreisels, 268 pp.

3007. P. Grodzinski, Practical theory of mechanisms, 1947. Emmet & Co., Ltd., Manchester, England. 166 pp.

3008. S. John, Fernmesstechnik. I. Allgemeines über Verfahren für kurzere Entfernung. G. Braun, Karlsruhe, 1951. 100 pp.

3009. Jack Johnson, Precision measurement, methods and formulas. ca 1948. Pitman Publishing Corporation, New York. 181 pp.

3010. F. D. Jones and H. L. Horton, Ingenious mechanisms for designers and inventors; Illustrated descriptions of a large variety of standard and special mechanisms selected by experienced machine designers as outstanding examples of ingenious mechanical movements for use in designing automatic mechanics and other mechanical devices. Vol. 1, Franklin D. Jones, editor, 1930. 536 pp. Vol. 2, Franklin D. Jones, editor, 1936. 538 pp. Vol. 3, Holbrook L. Horton, editor, 1951. Industrial Press, New York. 536 pp.

3011. Rudolf Klingler, Messen und Prüfen im Maschinenbau; Schweizer Druck- und Verlagshaus, Zurich, 1951. 487 pp.

2.3. Books; Instruments and Measurement
3000. Mechanics (Cont.)

3012. Hanns Körwien, *Messwerkzeuge; Werkstattmessungen*. Fachbuchverlag, Leipzig, Ed. 5, 1950. 222 pp.

3013. A. C. Merrington, *Viscometry*. Longmans, Green & Co., New York, 1949. 142 pp.

3014. Kurt Raentsch, *Optik in der Feinmesstechnik*. C. Hanser Verlag, Munich, 1949. 317 pp.

3015. A. Ribaux, *Regulateuro de vitesse*. Editions La Moraine, Geneva, 1947. 109 pp.

3016. Otto Richter and Richard von Voss, *Bauelemente der Feinmechanik*. Verein deutscher Ingenieure; Verlag Technik, Berlin, Ed. 4, 1949. 495 pp.

3017. Peter Schwamb, Allyne L. Merrill, and Walter J. James, *Elements of mechanism*, Ed. 6, by Vernon L. Doughtie. John Wiley & Sons, New York, 1947. 428 pp.

3018. Charles F. Shoop, George L. Tuve, *Mechanical engineering practice*, Ed. 4, McGraw-Hill, New York, 1949. 513 pp.

3019. Julian C. Smallwood and Frederick W. Keator, *Mechanical laboratory methods*. D. Van Nostrand Co., Ed. 5, 1947. 380 pp.

3020. Alwin Walther, editor, *Applied mathematics. III. Mathematical Foundations of fluid mechanics*. FIAT Review of German Science 1939-1946; Office of Military Government for Germany, Field Information Agencies, Technical, 1948. (Text, German; titles, also English) 202 pp.

3021. H. Matteeuw, *Meetinstrumenten en meetmethoden bij den machinebouw*. Uitg. De Anjelier, Brugge; Ed. 3, 2 volumes. 1948.

3022. Thomas N. Whitehead, *Design and use of instruments and accurate mechanism*. Macmillan Co., New York, 1934. 283 pp. Reprinted, Dover Publications, New York, 1954.

3100. Metallurgy; Hardness; Stress and Strain

3100. Miklos I. Hetényi, *Handbook of experimental stress analysis*. John Wiley & Sons, Inc., New York, 1950. Includes chapter bibliographies. 1077 pp.

2.3. Books; Instruments and Measurement
3100. Metallurgy (Cont.)

- 3101. Institute of Physics, Conference, Measurement of stress and strain in solids. July 1946, London, 1948. 114 pp.
- 3102. George L. Kehl, Principles of metallographic laboratory practice. McGraw-Hill, New York, Ed. 3, 1949. 520 pp.
- 3103. J. Koch, et al., Dehnungsmessstreifen-Messtechnik: Abhandlung über die Theorie und die praktische Anwendung von Dehnungsmessstreifen und den zugehörigen Apparaten. 1951. 99 pp. (Strain gages).
- 3104. A. Kuske, Verfahren der Spannungsoptik. Deutscher Ingenieur-Verlag, Düsseldorf, 1951. 134 pp. Bibliography.
- 3105. D. Landau, Hardness. The Nitr alloy Corporation, New York, 1943. 105 pp.
- 3106. F. C. Lea, Hardness of metals. Charles Griffin & Co., Ltd., London, 1936. 141 pp.
- 3107. Vincent E. Lysaght, Indentation hardness testing. Reinhold Publishing Corp., New York, 1949. 288 pp.
- 3108. National Bureau of Standards, Symposium on resistance strain gages. November 8-9, 1951. NBS Circular No. 528, 1954. 140 pp.
- 3109. A. U. Seybolt and J. E. Burke, Procedures in experimental metallurgy. John Wiley & Sons, New York, 1953. 354 pp.
- 3110. H. Weingraber, Technische Härtemessung: Grundlagen, Geräte, Durchführung. 1952. About 350 pp.
- 3111. Samuel R. Williams, Hardness and hardness measurements. American Society for Metals, Cleveland, 1942. 558 pp.
- 3112. J. Yarnell, Resistance strain gauges: Their construction and use. Electronic Engineering, London, 1951. 128 pp.

3200. Meteorology; Humidity

- 3200. H. Bongards, Feuchtigkeitsmessung. R. Oldenbourg, Berlin, 1926. 322 pp.

2.3. Books; Instruments and Measurement
3200. Meteorology (Cont.)

- 3201. Franz Bradtke and Walther Liese, *Hilfsbuch für raum- und aussen-klimatische Messungen, mit Berücksichtigung des Katathermometers*. Springer-Verlag, Berlin, Ed. 2, 1952. 116 pp.
- 3202. J. Alan Chalmers, *Atmospheric electricity*. Clarendon Press, Oxford, 1949. 175 pp.
- 3203. Victor Conrad and L. W. Pollak, *Methods in climatology*. Harvard University Press, Cambridge, Ed. 2, 1950. 459 pp.
- 3204. S. J. Davenport and G. G. Morgis, *Air pollution; A bibliography*. U. S. Bureau of Mines Bulletin 537, 1954. 3900 references, 1819-1952.
- 3205. Walter M. Elsasser, *Heat transfer by infrared radiation in the atmosphere*. Harvard Meteorological Studies No. 6. Harvard University Press, Cambridge, 1942. *Bibliography* (123 references). 108 pp.
- 3206. Sterling P. Fergusson, *Experimental studies of anemometers*. Harvard Meteorological Studies No. 4. Harvard University Press, Cambridge, 1939. *Bibliography* (264 references). 101 pp.
- 3207. E. Kleinschmidt, editor, *Handbuch der meteorologischen Instrumente*. G. Springer, 1935. 733 pp.
- 3208. Thomas F. Malone, *Compendium of meteorology*. American Meteorological Society, Blue Hill, Massachusetts, 1951. 1334 pp. (*Meteorological Instruments*, p. 1207-1231).
- 3209. W. E. K. Middleton and A. F. Spilhaus, *Meteorological instruments*. University of Toronto Press, Ed. 3, 1953. 286 pp.
- 3210. Josef Reiner, *Meteorologische Instrumente*. R. A. Lang Verlag, Poessneck, 1949. 170 pp.
- 3211. U. S. War Dept., *Weather Observer*, Technical manual TM 1-235. Washington, 1942. 674 pp.
- 3212. Arnold Wexler and W. G. Brombacher, *Methods of measuring and testing hygrometers*. U. S. National Bureau of Standards Circular 512, 1951. 18 pp. 157 references.

2.3. Books; Instruments and Measurement

3300. Metrology; Photogrammetry; Geodesy; Surface finish

3300. V. Ackerl, Geodäsie und Photogrammetrie. I. Instrumente und Verfahren der Vermessung und graphisch-mechanischen Auswertung. Verlag Georg Fromme & Co., Vienna, 1950. 460 pp.

3301. Georges Clavel, Traité de métrologie pratique. 1943. Vol. 1, text; vol. 2, plates.

3302. U. S. Coast and Geodetic Survey, Hydrographic manual. Special Publication No. 143, Washington, 1942 (revised edition). 940 pp.

3303. Douglas M. Considine, Industrial weighing. Reinhold Publishing Co., New York, 1948. 553 pp.

3304. Joseph M. DallaValle, Micromeritics; Technology of small particles. Pitman Publishing Corp., New York, Ed. 2, 1948. 555 pp.

3305. Maurice Denis-Papin and Jacques Vallot, Métrologie appliquée (méthodes et instruments de mesures). Dunod, Paris, 1948. 235 and 82 pp.; bibliography.

3306. R. Finsterwalder, Photogrammetrie. Ed. 2, W. de Gruyter, Berlin, 1952. 377 pp.

3307. Adolf Heckelmann, Praktische Vermessungskunde: Einfache Aufnahmen, Instrumente und Wägungen. W. Girardet, Essen, 1951. 525 pp.

3308. Peter Hidnert and Elmer L. Peffer, Density of solids and liquids. U. S. National Bureau of Standards, Circular 487, 1950. 29 pp.

3309. George L. Hosmer, Geodesy, including astronomical observations, gravity measurements, and method of least squares. John Wiley & Sons, Inc., New York, Ed. 2, 1930. 461 pp.

3310. Kenneth J. Hume, Engineering metrology. Macdonald & Co., London, 1951. 293 pp.

3311. A. W. Judge, Engineering precision measurements, Ed. 2. Chapman & Hall, Ltd., London, 1950. 363 pp.

3312. F. Koppelman, Messtechnik des mechanischen Präzisionsgleichrichters (Vektormesser). Essen, 1950. 340 pp.

3313. Paul Leinweber, editor, Taschenbuch der Längenmesstechnik. Springer Verlag, Berlin, 1954. 806 pp.

2.3. Books; Instruments and Measurement
3300. Metrology (Cont.)

3314. P. G. McCurdy, L. A. Woodward, J. I. Davidson, R. M. Wilson, and R. E. Ask, editors, Manual of photogrammetry. Pitman Publishing Corp., New York, 1944. 841 pp.

3315. Gower T. McNeil and Ralph O. Anderson, ABC's of photogrammetry. Edwards Bros., Inc., Ann Arbor, Michigan, 1949. Vol. 1, Fundamentals (McNeil), 10 sections, Vol. 2, Tilt and control extension (Anderson), 5 sections.

3316. National Bureau of Standards, Reports, National Conference on Weights and Measures, usually annual, Misc. Publication M199, 1950, 176 pp.; M202, 1951, 115 pp.; M206, 1952, 105 pp.; M209, 1953, 116 pp.; M212, 1954, 108 pp.

3317. National Council of Teachers of Mathematics, Committee on the Metric System, Metric system of weights and measures. Bureau of Publications, Teacher's College, Columbia University, New York, 1948. 303 pp.

3318. National Physical Laboratory, Recent developments and techniques in the maintenance of standards. H. M. Stationery Office, London, 1952. 100 pp. 12 papers on load, length, radioactive isotopes, temperature, light, and frequency standards.

3319. National Research Council, Committee on Physics of the Earth, Physics of the earth. II. Figure of the earth. Bull. 78, NRC, Washington, 1931. 286 pp.

3320. National Research Council, Committee on Physics of the Earth, Subsidiary Committee on Oceanography, Physics of the Earth. V. Oceanography. Bull. 85, NRC, Washington, 1932. 581 pp. (Oceanographic Instruments, pp. 411-454).

3321. Johannes Perthen, Prüfen und Messen der Oberflächengestalt. Hanser Verlag, Munich, 1949. 257 pp. (Test and measurement of surface finish).

3322. Kurt Räntsch, Grundlagen der technischen Winkelmessungen, (Vol. 1, Technisches Messen in Einzeldarstellungen). Carl Hanser Verlag, Munich, 1952. About 120 pp.

3323. Georg Schlesinger, Surface finish. The Institution of Production Engineers, London, 1942. 231 pp. (American edition by the American Society of Mechanical Engineers, New York).

2.3. Books; Instruments and Measurement
3300. Metrology (Cont.)

3324. Georg Schlesinger, *Messung der Oberflächengüte: Ihre praktische Anwendung auf die Funktion zusammenarbeitender Teilen*. Springer-Verlag, Berlin, 1951. 256 pp. (Surface finish measurement).

3325. Hans Schmidt, *Längenmessungen*, No. 104, *Werkstattbücher für Betriebsangestellte, Konstrukteure und Facharbeiter*. Springer-Verlag, Berlin, 1951. 64 pp.

3326. Kurt Schwidetsky, *Grundriss der Photogrammetrie*. B. G. Teubner Verlag, Leipzig (Ed. 4 of *Einführung in die Luft- und Erdbildmessung*), 1950. 228 pp.

3327. Francis A. Smith, John H. Eiseman, and E. Carroll Creitz, *Tests of instruments for the determination, indication or recording of the specific gravities of gases*. United States National Bureau of Standards Misc. Publ. M177, 1947. 143 pp.

3328. Wm. R. Varner, *Fourteen systems of units*. Oregon State College Cooperative Association, Corvallis, 1948. 218 pp.
I. Six Systems of Mechanics Units
II. Basic Equations
III. Eight Systems of Electric Units
IV. Basic Quantities and Equations
Appendix A. Measurement of Absolute Permittivity
Appendix B. Photometric Quantities.

3329. Heinz Wittke, *Geodätische Briefe: Ein neuzeitliches Selbststudium der Vermessungstechnik*, published by the author, Goslar/Harz, 1951. 457 pp.

3330. National Bureau of Standards, *Units of Weight and Measure; definitions and tables of equivalents*. Misc. Publ. M214. U. S. Government Printing Office, Washington, 1955. 64 pp. U. S. customary and metric units.

3400. Microscopy, electronic and optical

3400. Alva H. Bennett, Harold Osterburg, Helen Jupnik and Oscar W. Richards, *Phase microscopy; principles and applications*. John Wiley & Sons, Inc., New York, 1951. 320 pp.

3401. Eli F. Burton and W. H. Kohl, *The electron microscope: Introduction to its fundamental principles and applications*. Reinhold Publishing Corp., New York, Ed. 2, 1946. 325 pp.

2.3. Books; Instruments and Measurement
3400. Microscopy (Cont.)

3402. M. Chamot and Clyde W. Mason, *Handbook of chemical microscopy*; Vol. 1, *Principles and use of microscopes and accessories; Physical methods for the study of chemical problems*. Vol. 2, *Chemical methods and inorganic qualitative analysis*. John Wiley & Sons, Inc., New York, Ed. 2, 1938-1940. 478 pp. and 438 pp.

3403. Vernon E. Cosslett, *Practical electron microscopy*. Academic Press, New York, 1951. 299 pp.

3404. Edmund V. Cowdry, *Microscopic technique in biology and medicine*. Williams and Wilkins Co., Baltimore, 1943. 206 pp.

3405. Robert B. Fischer, *Applied electron microscopy*. Indiana Univ. Press, Bloomington, 1953. 234 pp.

3406. D. Gabor, *Electron microscope: Its development, present performance and future possibilities*. Chemical Publishing Co., Brooklyn, N. Y., 1948. 164 pp.

3407. Simon H. Gage, *Microscope*. Comstock Publishing Co., Ithaca, New York, Ed. 17, 1941. 617 pp.

3408. Walter Glaser, *Grundlagen der Electronenoptik*. Springer-Verlag, Vienna, 1952. 699 pp.

3409. Walter Gordy, Wm. V. Smith, and Ralph F. Trambarulo, *Microwave spectroscopy*. John Wiley & Sons, New York, 1953. 446 pp.

3410. Cecil E. Hall, *Introduction to electron microscopy*. McGraw-Hill, New York, 1953. 451 pp.

3411. Ruth McClung Jones, editor, *McClung's handbook of microscopical technique for workers in animal and plant tissues*. Paul B. Hoeber, Inc., New York, Ed. 3, 1950. 790 pp.

3412. O. Klemperer, *Electron optics*. Cambridge University Press, London, Ed. 2, 1953. 471 pp.

3413. Laurence C. Martin and B. K. Johnson, *Practical microscopy*. Chemical Publishing Co., New York, Ed. 2, 1950. 124 pp.

3414. Benno Romeis, *Mikroskopische technik*. Leibniz-Verlag, Munich, Ed. 15, 1948. 695 pp.

2.3. Books; Instruments and Measurement
3400. Microscopy (Cont.)

3415. Rudolf Röhle, Elektronenmikroskop. Schwab Verlag, Stuttgart, 1949. 168 pp.

3416. Vladimir K. Zworykin, George A. Morton, Edward G. Ramberg, James Hillier and Arthur W. Vance, Electron optics and the electron microscope. John Wiley & Sons, New York, 1945. 766 pp.

3500. Optics; Spectroscopy; Photography; Photometry

Note: See also Chemistry.

3500. William E. Barrows, Light, photometry, and illuminating engineering. McGraw-Hill, New York, Ed. 2, 1951. 415 pp.

3501. Georges A. Boutry, Optique instrumentale. Masson et Cie., Paris, 1946. 539 pp.

3502. Earle B. Brown, Optical instruments. Chemical Publishing Co., Brooklyn, New York, 1945. 567 pp.

3503. J. Brown, Microwave lenses. Methuen & Co., 1953. 125 pp.

3504. A. C. Candler, Modern interferometers. Hilger & Watts, London, 1951. 502 pp.

3505. Gustav Eberhard, Arnold Kohlschütter and Hans Ludendorff, editors, Handbuch der Astrophysik. Julius Springer, Berlin, 1933-1936. Includes sections on:
Spectroscopy, Astral Spectrography and Radiation Measurements, vol. 1
Theoretical Photometry, Spectrophotometry, Colorimetry, Photoelectric Photometry, vol. 2, part 1
Photographic and visual photometry, vol. 2, part 2
Radiant heat and Stellar Thermodynamics; Ionization; Quantum Theory, vol. 3, part 1
Spectra, vol. 3, part 2
Solar Radiation; Solar Physics, Vol. 4
Stellar Spectra, vol. 5, part 1
Star properties; Nebulae; Milky Way, vol. 5, part 2
Star Velocities; Variable Stars; Novae, vol. 6.

3506. Leopold Fink, Photographisches Messtechnik. R. Oldenbourg, Munich, 1940. 227 pp.

2.3. Books; Instruments and Measurement
3500. Optics (Cont.)

3507. Pierre Fleury, Étalons photométriques (Photometric standards), 1932. Editions de la Revue d'Optique théorique et instrumentale, Paris. 122 pp.

3508. Kenneth J. Habell and Arthur Cox, Engineering optics; Principles of optical methods in engineering measurement. Sir Isaac Pitman & Sons, Ltd., London, 1948. 411 pp.

3509. V. G. W. Harrison, Definition and measurement of glass; a survey of published literature. Printing & Allied Trades Research Association, London, 1945. 145 pp.

3510. Sydney H. Hemsley, Optical instruments in engineering. Paul Elek, Ltd., London, 1945. 80 pp.

3511. Christian H. von Hofe, Fernoptik; Theoretische und praktische Ausführungen über Fernrohre und militärische Instrumente. J. A. Barth, Leipzig, 1941. 275 pp.

3512. International Optical Committee, Proceedings of the London Conference on Optical Instruments (July 1950). John Wiley & Sons, Inc., New York, 1952. 264 pp.

3513. Donald H. Jacobs, Fundamentals of optical engineering. McGraw-Hill, New York, 1943. 487 pp.

3514. George A. Jones, High speed photography. Chapman & Hall, London, 1952. 311 pp.

3515. D. B. Judd, Color in business, science and industry. John Wiley & Sons, New York, 1952. 401 pp.

3516. H. A. E. Keitz, Lichtberechnungen und Lichtmessungen. Philips-Technische Bibliothek, Philips Gloeilampenfabriek, Eindhoven, 1951. 458 pp.

3517. Fritz Löwe, Optische Messungen des Chemikers und des Mediziners. Steinkopff-Verlag, Dresden, Ed. 6, 1954. 352 pp., bibliography.

3518. Louis C. Martin, Technical optics; revised edition of Introduction to applied optics. Pitman Publishing Corp., New York, 1950. 353 pp.

3519. Luigi Martinelli, Progetto degli strumenti ottici. Assoziazione ottica italiana, Florence, 1943. 607 pp.

2.3. Books; Instruments and Measurement
3500. Optics (Cont.)

- 3520. Massachusetts Institute of Technology, Color Measurement Laboratory, Handbook of colorimetry. Technology Press, Cambridge, 1936. 87 pp.
- 3521. George S. Monk, Light: Principles and experiments. McGraw-Hill, New York, 1937. 477pp.
- 3522. Humphrey D. Murray and D. A. Spencer, Colour in theory and practice. Vol. 1 General theory. Chapman & Hall, Ltd., London, 1939. 176 pp.
- 3523. Helmut Naumann, Optik für Konstrukteure. Knapp Verlag, Halle (Saale), 1949. 310 pp.
- 3524. Peter Pringsheim, Fluorescence and phosphorescence. Interscience Publishers, Inc., New York, 1949. 794 pp.
- 3525. Peter Pringsheim and Marcel Vogel, Luminescence of liquids and solids, and its practical applications. Interscience Publishers, Inc., New York, 1943. 201 pp. Revised reprint, 1946. 212 pp.
- 3526. Charles P. Shillaber, Photomicrography in theory and practice. John Wiley & Sons, Inc., New York, 1944. 773 pp.
- 3527. Samuel Tolansky, Multiple-beam interferometry of surfaces and films. Clarendon Press, Oxford, 1948. 187 pp.
- 3528. Aleksandr I. Tudorovskii, Teoriya opticheskikh proborov. Akademiya Nauk, Moscow, Ed. 2, 1948. Bibliography, 643-647 pp. (Optical instruments).
- 3529. Ernest E. Wahlstrom, Optical crystallography. John Wiley & Sons, Inc., New York, Ed. 2, 1951. 247 pp.
- 3530. John W. T. Walsh, Photometry. D. Van Nostrand Co., New York, 1926. 505 pp.
- 3531. Alwin Walther, editor, Applied mathematics. V. Kinematics, geometrical optics, crystallography. Applications in Electrotechnics, geophysics, astronomy, ballistics, gyroscope devices. FIAT Review of German Science, 1939-1946. Office of Military Government for Germany, Field Information Agencies Technical, 1948. 262 pp. (Text in German, titles in German and English).
- 3532. R. W. Wood, Physical optics. Macmillan Co., New York, Ed. 3, 1934. 846 pp.

2.3. Books; Instruments and Measurement
3500. Optics (Cont.)

3533. W. A. Wooster, Textbook on crystal physics. Cambridge University Press, 1938. 295 pp. Reprinted 1949.
3534. W. D. Wright, Measurement of colour. Adam Hilger Ltd., London, 1944. 223 pp.
3535. National Research Council, Committee on Spectral Absorption Data, Bibliography and infrared spectra of compounds. National Bureau of Standards, Washington. On IBM cards. Data available on 15,000 compounds.
3536. S. P. Sadtler & Son, Standard on infrared spectra, 5500 compounds. Philadelphia. Indexed on IBM punched cards.

3600. Pressure

Note: See also Vacuum.

3600. P. W. Bridgman, The physics of high pressure. G. Bell & Sons, Ltd., London, 1931, 1949 with supplement. 445 pp.
3601. Kalman J. De Juhasz, Engine indicator: Its design, theory and special applications. Instruments Publishing Co., Pittsburgh, 1934. 243 pp.
3602. Delmar Publishers, Inc., Fundamentals of pressure and temperature instruments. Albany, New York, 1947. 232 pp.
3603. G. E. Ferguson and W. G. Brombacher, Manometer tables. Instrument Society of America, RP211, 1952. 32 pp.
3604. I. I. Glass, W. Martin and G. N. Patterson, A theoretical and experimental study of the shock tube. Institute of Aerophysics, University of Toronto Report No. 2, 1953. 281 pp. 73 references.
3605. J. Lukasiewicz, Shock tube theory and applications. National Research Council, Canada, Division of Mech. Eng., Report No. MT-10, pp. 147. 1950. 33 references.
3606. Symposium, high pressure measurement. American Society of Mechanical Engineers, 1953. 14 papers, bound. Also Trans. ASME, April 1953. 11 papers.

2.3. Books; Instruments and Measurement
3700. Radiation, Nuclear and X-rays; Counters

Note: See also Chemistry, Optics and Radar.

3700. American Society of Mechanical Engineers, Glossary of terms in nuclear science and technology. 1953. 2080 terms defined.

3701. J. B. Birks, Scintillation counters. McGraw-Hill, New York, 1953. 148 pp.

3702. Ernst Bleuler and George J. Goldsmith, Experimental nucleonics. Rinehart & Co., Inc., New York, 1952. 393 pp.

3703. George L. Clark, Applied x-rays. McGraw-Hill, New York, Ed. 3, 1940, 843 pp.

3704. H. R. Clauser, Practical radiography for industry. Reinhold Publishing Corp., New York, 1952. 301 pp.

3705. Charles D. Coryell and Nathan Sugarman, Radiochemical studies: Fission products. National Nuclear Energy Series; McGraw-Hill, New York, Ed. 1, 1951. 2086 pp. in 3 volumes., 336 papers.
I. Counting techniques (11 papers)
II. Chemical studies at tracer levels (12 papers)
III. Remote control techniques (10 papers)
IV. Studies of the fission process (19 papers)
V. Radioactivity of the fission products (147 papers)
VI. Radiochemistry of the fission product elements (85 papers)
VII. Special studies of gaseous fission products (7 papers)
VIII. Radiochemical studies of other activities (19 papers).

3706. S. C. Curran and J. D. Craggs, Counting tubes: Theory and applications. Academic Press, New York, 1949. 238 pp.

3707. L. F. Curtiss, Measurements of radioactivity. National Bureau of Standards Circular No. 476, 1949. 84 pp.

3708. Eastman Kodak Co., X-ray Division, Radiography in modern industry. Rochester, New York, 1947. 122 pp.

3709. G. E. Francis, W. Milligan, and A. Wormall, Isotopic tracers - a theoretical and practical manual for biological students and research workers. John deGraff, Inc., New York, 1954. 306 pp.

3710. A. B. Gillespie, Signal noise and resolution in nuclear counter amplifiers. McGraw-Hill, New York, 1953. 155 pp.

2.3. Books; Instruments and Measurement
3700. Radiation (Cont.)

- 3711. Alvin C. Graves and Darol K. Froman, Miscellaneous physical and chemical techniques of the Los Alamos project: Experimental techniques, National Nuclear Energy Series. McGraw-Hill, New York, Ed. 1, 1949. 323 pp.
- 3712. W. Heisenberg, Nuclear physics. Philosophical Library, Inc., New York, 1953. 225 pp.
- 3713. D. G. Hughes, Neutron optics. Interscience Publishers, New York, 1954. 136 pp.
- 3714. Ralph E. Lapp and Howard L. Andrews, Nuclear radiation physics. Prentice-Hall, New York, Ed. 2, 1954. 532 pp.
- 3715. Hrand M. Muncharyan, Industrial radiology and related phenomena (x-rays, gamma rays, physical metallurgy and magnetic inspection). Aircraft X-ray Laboratories, Los Angeles, 1943. 539 pp.
- 3716. National Bureau of Standards, Radiological monitoring methods and instruments. NBS Handbook No. 51, 1952. 33 pp.
- 3717. P. Porcher, Précis de technique radiographique. Gauthier-Villars, Paris, Ed. 2, 1948. 508 pp.
- 3718. Darmon A. Rhinehart, Roentgenographic technique. Lee & Febiger, Philadelphia, 1943. 471 pp.
- 3719. Bruno B. Rossi and Hans K. Staub, Ionization chambers and counters: Experimental techniques. National Nuclear Energy Series. McGraw-Hill, New York, Ed. 1, 1949. 243 pp.
- 3720. Ancel St. John and Herbert R. Isenburger, Industrial radiology; X-rays and gamma rays. John Wiley & Sons, Inc., New York, Ed. 2, 1943. 298 pp., bibliography, 1314 references. Supplementary bibliography (1942-1945), issued 1946 by St. John X-ray Service, Inc., Long Island City, New York. 16 pp.
- 3721. E. Segre, editor, Experimental nuclear physics, Vol. 2, John Wiley & Sons, New York, 1953. 600 pp.
- 3722. Manne Siegbahn, Spectroscopy of X-rays. (Translated, with additions, by George A. Lindsay); Oxford University Press, Humphrey Milford, London, 1925. 287 pp.
- 3723. Denis Taylor, The measurement of radio isotopes. Methuen & Co., Ltd., London, 1952. 118 pp.

2.3. Books; Instruments and Measurement
3700. Radiation (Cont.)

3724. Charles Weyl and S. Reid Warren, Jr., Radiologic physics. Chas. C. Thomas, Springfield, Illinois, Ed. 2, 1951. 491 pp.

3725. D. H. Wilkinson, Ionization chambers and counters. Cambridge Univ. Press, 1950. 266 pp.

3800. Radio; Radar; Microwaves; Communications

3800. Robert Aschen, Appareils de mesure en radiotechnique. Dunod, Paris, 1948. 172 pp.

3801. Bell Telephone Laboratories, Radar systems and components. D. Van Nostrand Co., New York, 1949. 1042 pp. (Reprints of papers, with bibliographies, from the Bell System Technical Journal).

3802. Marcel Boll, Radio, radar, television. Larousse, Paris, 1950. 429 pp.

3803. Donald S. Bond, Radio direction finders. McGraw-Hill, New York, 1944. 287 pp.

3804. André Brancard, Appareils de mesure et de contrôle des radioélectriciens et sans-filistes; Comment les réaliser et les utiliser. Dunod, Paris, Ed. 2, 1951. 190 pp.

3805. Sune V. Bratt, Radar till sjöss: Decca, Loran, Consol. Nautics Forlag, Göteborg, 1949. 72 pp.

3806. A. Ya Breithart, Kratkie osnovy radiolokatsii. Sovetskoe Radio, Moscow, 1951. 134 pp. (Fundamentals of radar).

3807. Werner W. Diefenbach, Mess-und Prüferäte für Rundfunkwerkstätten. Schneider Verlag, Berlin-Templehof, Ed. 3, 1948. 165 pp.

3808. Anders Djurberg, Radar: En bok om elementar radarteknik. Forum, Stockholm, 1949. 190 pp.

3809. Donald G. Fink, Radar engineering. McGraw-Hill, New York, Ed. 1, 1947. 644 pp. (Translated into Russian, 1949).

3810. August Hund, Short-wave radiation phenomena. McGraw-Hill, New York, 1952. 2 vols., 1382 pp.

2.3. Books; Instruments and Measurement
3800. Radio (Cont.)

- 3811. Paul H. Hunter, Telecommunication engineers' instrument manual. Caldwell-Clements, Inc., New York, 1947. 168 pp. Bibliography.
- 3812. Ya S. Itsakhoki, Impul'snaya tekhnika. Sovetskoe Radio, Moscow, 1949. 295 pp., bibliography. (Radar electronics).
- 3813. Ronald Keen, Wireless direction finding. Iliffe & Sons, Ltd., London, Ed. 4, 1947. 1059 pp.
- 3814. Donald D. King, Measurements at centimeter wavelength. D. Van Nostrand Co., New York, 1952. 327 pp.
- 3815. Herbert Lennartz, Constructie en gebruik van praktische meetinstrumenten voor den radiovakman. P. H. Brans, Antwerp, 1946. 250 pp.
- 3816. Herbert Lennartz, Praktische Messgeräte für Hoch- und Niederfrequenz. Weichmann, Berlin, 1941. 248 pp.
- 3817. Robert Lepretre, Radar. Gauthier-Villars, Paris, 1951. 294 pp. Bibliographies. (In French).
- 3818. Otto Limann, Prüffeldmesstechnik: Entwurf von Messeinrichtungen für die Funkindustrie. Angerer Funkschau-Verlag, Munich, Ed. 3, 1947. 304 pp., bibliography pp. 292-302.
- 3819. Harold E. Penrose and R. S. H. Boulding, Principles and practice of radar. G. Newnes, London, Ed. 2, 1950. 708 pp.
- 3820. Owen S. Puckle, Time bases, scanning generators: Their design and development, with notes on the cathode ray tube. John Wiley & Sons, New York, Ed. 2, 1951. 387 pp.
- 3821. Domenico E. Ravalico, Servizio radiotecnico. Ulric Hoepli, Milan, 1948.
 - Vol. 1, Ed. 7, Strumenti per radiotecnici
 - Vol. 2, Ed. 6, Radio riparazioni.
- 3822. H. J. Reich, P. F. Ordung, H. L. Kraus and J. G. Skalnik, Microwave theory and techniques. D. Van Nostrand Co., New York, 1953. 901 pp.
- 3823. Louis N. Ridenour and George B. Collins, editors, Radiation Laboratory Series. Massachusetts Institute of Technology and the National Defense Research Committee. McGraw-Hill, New York, 1947-1948.
 - 1. Louis N. Ridenour, Radar system engineering. 748 pp.
 - 2. John S. Hall, Radar aids to navigation. 389 pp.

2.3. Books; Instruments and Measurement
3800. Radio (Cont.)

3823. (Continued)

3. Arthur Roberts, Radar beacons. 489 pp.
4. John A. Pierce, A. A. McKenzie and R. H. Woodward, Loran. 476 pp.
5. George N. Glascoe and J. V. Lebacqz, Pulse generators. 741 pp.
6. George B. Collins, Microwave magnetrons. 806 pp.
7. Donald R. Hamilton, Julian K. Knipp and J. B. Horner, Klystrons and microwave triodes. 533 pp.
8. Carol G. Montgomery, Robert H. Dicke and Edward M. Purcell, Principles of microwave circuits. 486 pp.
9. George L. Ragan, Microwave transmission circuits. 725 pp.
10. Nathan Marcuvitz, Waveguide handbook. 428 pp.
11. Carol G. Montgomery, Technique of microwave measurements. 939 pp. (Translated into Russian, 1949).
12. Samuel Silver, Microwave antenna theory and design. 623 pp.
13. Donald E. Kerr, Propagation of short radio waves. 728 pp.
14. L. D. Smullin and C. G. Montgomery, Microwave duplexers. 437 pp.
15. H. C. Torrey and C. A. Whitmer, Crystal rectifiers. 443 pp.
16. Robert V. Pound, Microwave mixers. 381 pp.
17. John F. Blackburn, Components handbooks. 626 pp.
18. G. E. Valley and H. Wallman, Vacuum tube amplifiers. 743 pp.
19. Britton Chance, Waveforms. 785 pp.
20. Britton Chance, Robert I. Holsizer, Edward F. MacNichol, Jr. and Frederick C. Williams, Electronic time measurements. 538 pp.
21. Ivan A. Greenwood, Jr., J. Vance Holdam, Jr., and Duncan MacRae, Jr., Electronic instruments. 721 pp.
22. Theodore Soller, Merle A. Starr and George E. Valley, Jr., Cathode ray tube displays. 746 pp.
23. S. N. VanVoorhis, Microwave receivers. 618 pp.
24. J. L. Lawson and G. E. Uhlenbeck, Threshold signals. 388 pp.
25. Hubert M. James, N. B. Nichols and Ralph S. Phillips, Theory of servomechanisms. 375 pp.
26. W. M. Cady, M. B. Karelitz and Louis A. Turner, Radar scanners and radomes. 491 pp.
27. Antonin Svoboda, Computing mechanisms and linkages. 359 pp.
28. Index.

3824. Marcus G. Scorgie, Radio laboratory handbook. Iliffe, Ltd. (for Wireless World), London, Ed. 5, 1950. 430 pp.

3825. T. E. Shea, Transmission networks and wave filters. D. Van Nostrand Co., New York, 1943. 470 pp.

3826. Claude E. Shannon and Warren Weaver, The mathematical theory of communication. Univ. of Illinois Press, Urbana, 1949. 117 pp.

2.3. Books; Instruments and Measurement
3800. Radio (Cont.)

3827. Institute of Radio Engineers, Professional Group on Information Theory, 1954 Symposium on information theory. Trans. Institute of Radio Engineers. PGIT-4, September 1954. 227 pp.

3828. Willis Jackson, Communication theory. Academic Press, New York, 1953. 532 pp. Symposium, Institution of Electrical Engineers, London, 1952.

3900. Sound; Ultrasonics

3900. Leo L. Beranek, Acoustic measurements. John Wiley & Sons, New York, 1949. 914 pp.

3901. Leo L. Beranek, Acoustics. McGraw-Hill, New York, 1954. 481 pp.

3902. Ludwig Bergmann, Der Ultraschall und seine Anwendung in Wissenschaft und Technik. S. Hirzel, Zurich, Ed. 6, 1954. 1114 pp.

3903. Benson Carlin, Ultrasonics, McGraw-Hill, New York, 1949. 270 pp.

3904. Frederick V. Hunt, Electroacoustics. Harvard Univ. Press, Cambridge and John Wiley & Sons, New York, 1954. 260 pp.

3905. Warren P. Mason, Piezoelectric crystals and their applications to ultrasonics. D. Van Nostrand Co., New York, 1950. 508 pp.

3906. Philip M. Morse, Vibration and sound. McGraw-Hill, New York, Ed. 2, 1948. 468 pp.

3907. Robert H. Randall, Introduction to acoustics. Addison-Wesley Press, Inc., Cambridge, Massachusetts, 1951. 340 pp.

3908. E. G. Richardson, editor, Technical aspects of sound. Vol. 1, Sonic Range and Airborne Sound. Elsevier Publishing Co., 1953. 544 pp.

4000. Temperature; Heat; Pyrometers; Regulators

4000. American Institute of Physics, New York, Temperature: Its measurement and control in science and industry; symposium. Reinhold Publishing Corporation, New York, 1941. 1362 pp.

2.3. Books; Instruments and Measurement
4000. Temperature (Cont.)

4001. American Institute of Mining and Metall. Eng., Pyrometry, 1920. 701 pp.
4002. A. J. Ansley, Temperature control. Chapman & Hall, London, 1942. 127 pp.
4003. H. D. Baker, E. A. Ryder and N. H. Baker, Temperature measurements in engineering, Vol. I. John Wiley & Sons, 1953. 179 pp.
4004. British Standards Institution, British Standard code for temperature measurement. British Standard 1041-1943, London. 76 pp. With amendment PD437, 1946.
4005. Victor Broida, "Heat inertia" in problems of automatic control of temperature. Instruments Publishing Co., Pittsburgh, 1950. 61 pp.
4006. Charles N. Campbell, Modern pyrometry. Chemical Publishing Co., New York, 1951. 150 pp.
4007. Huber O. Croft, Thermodynamics, fluid flow and heat transmission. McGraw-Hill, New York, 1938. 312 pp.
4008. Hans Faltin, Messverfahren und Messgeräte der Kraft und Wärmeökonomie. Knapp Verlag, Halle (Saale), 1950. 639 pp.
4009. Paul D. Foote, C. O. Fairchild and T. R. Harrison, Pyrometric practice. U. S. Bureau of Standards Technologic Paper 170, 1921. 326 pp.
4010. W. E. Forsythe, Measurement of radiant energy. McGraw-Hill, New York, 1937. 452 pp.
4011. C. G. B. Garrett, Magnetic cooling. John Wiley & Sons, 1954. 110 pp.
4012. A. G. Gaydon and H. G. Wolfhard, Flames, their structure, radiation and temperature. Chapman & Hall, London, 1953. 317 pp.
4013. Ezer Griffiths, Methods of measuring temperature. Charles Griffin & Co., Ltd., London, Ed. 3, 1947. 223 pp.
4014. Roosevelt Griffiths, Thermostats and temperature regulating instruments. Charles Griffin & Co., Ltd., London, Ed. 3, 1951. 217 pp.
4015. F. Henning, Temperaturmessung. Leipzig, 1951. 294 pp.

2.3. Books; Instruments and Measurement
4000. Temperature (Cont.)

- 4016. Fritz Hoffmann and Carl Tingwaldt, Optische pyrometrie. Friedr. Vieweg & Sohn, Braunschweig, 1938. 134 pp.
- 4017. R. W. Ladenburg, B. Lewis, R. N. Pease and H. S. Taylor. Physical measurements in gas dynamics and combustion. Princeton University Press, Princeton, N. J., 1954. 578 pp.
- 4018. B. Lewis and G. Von Elbe, Combustion, flames and explosion of gases. Academic Press, New York, revised ed., 1951. 795 pp.
- 4019. H. Lindorf, Technische Temperaturmessungen. W. Girardet, Essen, 1952. 168 pp.
- 4020. Gustave Ribaud, Traité de pyrométrie optique (Treatise on optical pyrometry). Éditions de la Revue d'Optique théorique et instrumentale. Paris, 1931. 485 pp.
- 4021. G. Ribaud, Mesure des températures (Measurement of temperature). Librairie Armand Collin, Paris, 1936. 224 pp.
- 4022. William F. Roeser and E. F. Mueller, Measurement of surface temperature. National Bureau of Standards Journal of Research, Vol. 5, 1930. pp. 793-802.
- 4023. William F. Roeser and H. T. Wensel, Methods of testing thermocouples and thermocouple materials. Journal of Research, National Bureau of Standards, Vol. 14, 1935. pp. 247-282.
- 4024. Robert Royds, Measurement and control of temperatures in industry. Constable and Co., Ltd., London, 1951. 260 pp.
- 4025. M. Ruhemann and B. Ruhemann, Low temperature physics. Cambridge University Press, 1937. 313 pp.
- 4026. Henry Shenker, John I. Lauritzon, Jr., Robert J. Corruccini and S. T. Lonberger, Reference tables for thermocouples. National Bureau of Standards Circular C561, 1955. 84 pp.
- 4027. Robert B. Sosman, Pyrometry of solids and surfaces. American Society for Metals, Cleveland, 1940. 98 pp.
- 4028. Symposium on gas temperature measurement. Journal of the Institute of Fuel 12, No. 64, March, 1939. 108 pp.

2.3. Books; Instruments and Measurement
4000. Temperature (Cont.)

4029. Robert L. Weber, editor, Heat and temperature measurement. Prentice-Hall, Inc., New York, 1950. 422 pp.

4030. William P. Wood and James Cork, Pyrometry. McGraw-Hill, New York, Ed. 2, 1941. 263 pp.

4100. Timing

4100. Frederick J. Britten, The watch and clock maker's handbook, dictionary and guide. Chemical Publishing Co., New York, 14 ed., 1938. 547 pp.

4101. Frederick W. Britten, Horological hints and helps. The Technical Press, Ltd., Surrey, England, Ed. 4, 1947. 384 pp.

4102. Britton Chance, Robert Hulsizer, Edward F. MacNichol, Jr., and Frederick C. Williams, Electronic time measurements. MIT Radiation Laboratory Series. McGraw-Hill, New York, 1949. 538 pp.

4103. J. Eric Haswell, Horology. Chapman & Hall, London, 1937. 289 pp.

4104. Ian A. D. Lewis and Frank H. Wells, Millimicrosecond pulse techniques. McGraw-Hill, New York, 1954. 310 pp.

4105. Willis I. Milham, Time and timekeepers. Macmillan Co., New York, 1944. 616 pp.

4106. James T. Pellaton, Watch escapements. Translation by S. Paris. Henry Paulson & Co., Chicago, Ed. 3, 1949. 126 pp.

4107. Arthur L. Rawlings, Science of clocks and watches. Pitman Publishing Corp., New York, Ed. 2, 1948. 303 pp.

4108. S. J. Wise, Electrical clocks. Heywood & Co., Ltd., London, 1948. 150 pp.

4200. Vacuum

Note: See also Pressure.

4200. Saul Dushman, Scientific foundations of vacuum technique. John Wiley & Sons, New York, 1949. 882 pp.

2.3. Books; Instruments and Measurement
4200. Vacuum (Cont.)

- 4201. A. Guthrie and R. K. Wakerling, editors, Vacuum equipment and techniques. National Nuclear Energy Series. McGraw-Hill, New York, Ed. 1, 1949. 264 pp.
- 4202. Rudolf Jaeckel, Kleinste Drucke: Ihre Messung und Erzeugung. Springer Verlag, Berlin, 1950. 302 pp.
- 4203. Swami Jnanananda, High vacua; principles, production and measurement. D. Van Nostrand Co., Inc., New York, 1947. 310 pp.
- 4204. Guenther Moench, Hochvakuumtechnik, R. A. Lang Verlag, Poessneck, Ed. 2 of Vakuumtechnik im Laboratorium, 1950. 472 pp.

4300. Vibration

- 4300. J. P. Den Hartog, Mechanical vibrations, McGraw-Hill, New York, 1947. 478 pp.
- 4301. N. O. Myklestad, Vibration analysis. McGraw-Hill, New York, 1944. 303 pp.
- 4302. S. Timoshenko, Vibration problems in engineering. D. Van Nostrand, 1937. 470 pp.
- 4303. G. W. Van Santen, Mechanical vibration. Elsevier Press, Houston, 1953. 296 pp.

2.3. Books
5000. Reference Works in Science or Technology; Handbooks

Note: See also 2800, Instrument Texts.

- 5000. American Society for Metals, Metals Handbook, Cleveland, 1948. 1444 pp. Supplement, Taylor Lyman, editor, 1954. 184 pp.
- 5001. American Society for Heating and Ventilating Engineers, Heating, ventilating, air conditioning guide. New York, Vol. 32, 1954. 1616 pp.
- 5002. W. E. Barr and V. J. Anhorn, Scientific and industrial glassblowing and laboratory techniques. Instruments Publishing Co., Pittsburgh, 1949. 380 pp.

2.3. Books
5000. Reference Works (Cont.)

5003. Magens A. Blom, editor, *El-haandbogen: anlaeg of installationer, maskiner og motorer, reparationsteknik*. Forlaget Ivar, Copenhagen, Ed. 2, 1951, 794 pp. (Electrical handbook, includes sections on measurements and instruments, and some Danish standards).
5004. R. M. Bozorth, *Ferromagnetism*. D. Van Nostrand, 1951. 968 pp., 1800 references.
5005. H. J. J. Braddick, *Physics of experimental method*. John Wiley & Sons, New York, 1954. 404 pp.
5006. W. G. Cady, *Piezoelectricity*. McGraw-Hill, New York, 1946. 806 pp., 600+ references.
5007. Colin Carmichael, editor, *Kent's mechanical engineers' handbook*, Vol. II, Design and production. John Wiley & Sons, New York, 1950. 1611 pp.
5008. Robert H. Cole, *Underwater explosions*. Princeton University Press, Princeton, 1948. 437 pp.
5009. M. B. Dobrin, *Introduction to geophysical prospecting*. McGraw-Hill, New York, 1952. 435 pp.
5010. N. Ernest Dorsey, *Properties of ordinary water substance*. Rheinhold Publishing Co., New York, 1940. 673 pp.
5011. Fedor V. Brozgov, *Detali priborov*. Gosydarstvennoe izdatel'stvo oboronnoi Promyshlennosti, Moscow, Ed. 2, 1948. 593 pp. (Laboratory and engineering instruments).
5012. O. W. Eshbach, editor, *Handbook of engineering fundamentals*. John Wiley & Sons, New York, 1952. 1314 pp.
5013. W. E. Forsythe, *Smithsonian physical tables*, 9th revised edition. Smithsonian Institution, Washington, D. C., 1954. 827 pp.
5014. H. Geiger and Karl Scheel, editors, *Handbuch der Physik*. Verlag von Julius Springer, Berlin, 1926-1933; 24 vols. bound in 30; vol. 2, *Elementare Einheiten und ihre Messung*, 522 pp.; vol. 8, *Akustik*, 712 pp.; vol. 16, *Apparate und Messmethoden für Elektrizität und Magnetismus*, 801 pp.; vol. 18, *Geometrische Optik, Optische Konstante, Optische Instrumente*, 865 pp.; vol. 19, *Herstellung und Messung des Lichts*, 995 pp.; also monographs on thermometry (vol. 9, pp. 521-610); spectroscopy (vol. 21, pp. 652-682); and theory of refraction in optical instruments (vol. 21, pp. 885-955); subject index published separately, 1929.

2.3. Books
5000. Reference Works (Cont.)

5015. G. W. Geil, editor, Mechanical properties of metals at low temperatures. National Bureau of Standards Circular 520, 1952. 206 pp.

5016. Otto Glasser, editor, Medical physics. Year Book Publishers, Inc., Chicago, Vol. 1, 1944. 1744 pp.; Vol. 2, 1950. 1227 pp.

5017. Sir Richard Glazebrook, editor, Dictionary of applied physics. Macmillan & Co., Ltd., London, 1922-1923.
Vol. 1: Mechanics, engineering, heat (31 monographs)
Vol. 2: Electricity (40 monographs)
Vol. 3: Meteorology, metrology, measuring apparatus (33 monographs)
Vol. 4: Light, sound, radiology (40 monographs)
Vol. 5: Aeronautics, metallurgy (28 monographs).

5018. Peter Hidnert and William Souder, Thermal expansion of solids. National Bureau of Standards, Circular 486, 1950. 29 pp.

5019. A. R. Von Hippel, editor, Dielectric materials and applications. Technology Press, MIT and John Wiley & Sons, New York, 1954. 438 pp., 22 papers. Section of dielectric materials as devices (pp. 242-282).

5020. Arthur R. Von Hippel, Dielectrics and waves, John Wiley & Sons, New York, 1954. 284 pp.

5021. Charles D. Hodgman, Handbook of chemistry and physics. Chemical Rubber Publishing Co., Cleveland, 35th ed. 1953-1954. 3163 pp.

5022. Ralph G. Hudson, The engineers manual. John Wiley & Sons, New York, 1939. 340 pp.

5023. A. E. Knowlton, editor, Standard handbook for electrical engineers. McGraw-Hill, New York, 1949. 2311 pp.

5024. Friedrich W. G. Kohlrausch, Praktische Physik zum Gebrauch für Unterricht, Forschung und Technik. Ed. 18 edited by F. Henning, Leipzig, 1943. Reissued in the U. S. by the Alien Property Custodian, Edwards Brothers, Ann Arbor, Michigan, 1947. 2 volumes, 535 and 578 pp.

5025. David B. Kret, Transducers, Dumont Laboratories, Inc., Clifton, New Jersey, 2nd edition 1953. 151 pp. Commercially available transducers.

5026. Ruth Lang, editor, Laboratory and workshop notes; Further laboratory and workshop notes. A selection reprinted from the Journal of Scientific Instruments, Longmans, Green & Co., Ltd., London, for the Institute of Physics, 1949. 272 pp. 1951, 290 pp.

2.3. Books
5000. Reference Works (Cont.)

5027. Robert J. List, Smithsonian meteorological tables. Smithsonian Institution, Washington, D. C., 1951. 527 pp.

5028. Lionel S. Marks, editor, Mark's mechanical engineers' handbook. McGraw-Hill, New York, 5th edition 1951. 2236 pp.

5029. W. P. Mason, Electromechanical transducers and wave filters. Van Nostrand & Co., New York, 1948. 419 pp.

5030. Richard von Mises and Theodore von Karman, editors, Advances in applied mechanics. Academic Press Inc., New York, Vol. 1, 1948. 293 pp. Vol. 2, 1951. 233 pp.

5031. P. M. Morse and H. Freshbach, Methods of theoretical physics, Parts I and II. McGraw-Hill, New York, 1953. 1978 pp.

5032. Homer E. Newell, High altitude research, Academic Press, New York, 1953. 298 pp.

5033. Erik Oberg and F. D. Jones, Machinery's handbook. Machinery Publishing Co., Brighton, England, 1953. 1911 pp.

5034. Harold Pender and Knox McIlwain, editors, Electrical engineers' handbook: Vol. II, Communication-electronics. John Wiley & Sons, Inc., New York, Ed. 4, 1950. 1497 pp. 23 sections by 78 contributors; short bibliographies appear at the end of many subsections. Notable sections:
4. Electron tubes, 89 pp.
7. Vacuum tube circuit elements, 137 pp.
11. Electrical measurements, 102 pp.
21. Electronic control equipment, 34 pp.

5035. J. H. Perry, Chemical engineers' handbook, 3rd edition. McGraw-Hill, New York, 1950. 1942 pp.

5036. Van R. Potter, Methods in medical research. The Year Book Publishers, Chicago, 1948. 372 pp.

5037. Hermann Pöschl, Verbindungselemente der Feinwerktechnik. Springer Verlag, Berlin, 1954. 108 pp.

5038. Ludwig Prandtl, Essentials of fluids dynamics with applications to hydraulics, aeronautics, meteorology, and other subjects. Hafner Publishing Co., 1952. 452 pp.

2.3. Books
5000. Reference Works (Cont.)

- 5039. Polytechnic Institutes of Brooklyn, Microwave Research Institute, Proceedings, Symposium on nonlinear circuit analysis, 1953. 411 pp.
- 5040. Louis N. Ridenour, Modern physics for the engineer. McGraw-Hill, New York, 1954. 499 pp. Three parts - Laws of nature, Man's physical environment, and information and its communication.
- 5041. J. K. Salisbury, Kent's mechanical engineers' handbook, vol. 2, Power. John Wiley & Sons, Inc., New York, 1950. 1459 pp.
- 5042. M. G. Salvadori and R. J. Schwarz, Differential equations in engineering problems. Prentice-Hall, New York, 1954. 432 pp.
- 5043. C. H. Samans, Engineering metals and their alloys. Macmillan Co., New York, 1953. 913 pp.
- 5044. John Strong, H. Victor Neher, Albert E. Whitford, C. Hawley Cartwright and Roger Hayward, Procedures in experimental physics. Prentice-Hall, New York, 1944. 642 pp.
- 5045. Otto Stuhlman, Introduction to biophysics. John Wiley & Sons, New York, 1943. 375 pp.
- 5046. Hans H. von Stutterheim, editor, Handbuch der Feinmechanik und Optik, verbunden mit firmenkundlicher und warenkundlicher Darstellung. Verlag für Fachliteratur, Mühlhausen, 1950. 436 pp.
- 5047. A. Sully, Metallic creep and creep resistant alloys. Interscience Publishers, 1949. 278 pp. 200 references.
- 5048. Frederick E. Terman, Radio engineers handbook, McGraw-Hill, New York, 1943. 1019 pp.
- 5049. Westinghouse Electric Corporation, Industrial electronics reference book. John Wiley & Sons, New York, 1948. 680 pp.
- 5050. Marsh W. White, Kenneth V. Manning, Robert L. Weber and R. Orin Cornett, Practical physics. McGraw-Hill, New York, 1943. 365 pp.
- 5051. Wilhelm C. W. O. Wiens and Fritz F. Harms, editors, Handbuch der experimental Physik. 26 volumes (bound in 43) and Supplements I and II, Leipzig, 1926-1935.
- 5052. A. J. C. Wilson, editor, Structure reports (crystals). International Union of Crystallography, NVA Oosthoek Uitgevers Mij, Utrecht, 1954. 643 pp.

2.3. Books
5000. Reference Works (Cont.)

5053. James F. Young, Materials and processes. John Wiley & Sons, New York, Ed. 2, 1954. 1074 pp.

5054. L. V. Zakutskii and L. I. Loginov, editors, Entsiklopediya tekhnicheskikh izmerenii ETI. Glav. red. energ. literatury, Leningrad. Issued in parts, beginning in 1934.

5055. Vin Zeluff and John Markur, editors, Electronics manual for radio engineers. McGraw-Hill, New York, 1949. 879 pp.

5056. C. M. Zener, Elasticity and anelasticity of metals. University of Chicago Press, 1948. 170 pp.

5057. Joseph Hilsenrath, Charles W. Beckett, William S. Benedict and 7 others, Tables of the thermodynamic and transport properties of air, argon, carbon dioxide, carbon monoxide, hydrogen, nitrogen, oxygen and steam. National Bureau of Standards Circular 564, 1955. Approx. 500 pp. (In press June 1955).

5058. S. S. Stevens, editor, Handbook of experimental psychology. John Wiley & Sons, New York, 1951. 1436 pp. Chapter 35, P. M. Fitts, Engineering psychology and equipment design, 1287-1340. 166 refs.

5059. A. Chapanis, W. R. Garner and C. T. Morgan, Applied experimental psychology. Human factors in engineering design. John Wiley & Sons, New York, 1949. 434 pp.

5060. Luther L. Castetter, Fundamentals of human engineering. Institute of Human Engineering, Indianapolis, 1951. 192 pp.

5061. Wesley E. Woodson, Human engineering guide for equipment designers. University of California Press, Berkeley, 1954. 246 pp.

2.3. Books; Testing and Inspection
6000. General

6000. Association Internationale pour l'Essai des Materiaux; Congrès de Zurich. Editions AITEM, Zurich, 1931. 2 volumes.

6001. Irving H. Cowdrey and Ralph G. Adams, Materials testing: theory and practice. John Wiley & Sons, Inc., New York, Ed. 2, 1944.

2.3. Books; Testing and Inspection
6000. General (Cont.)

6002. Harmar E. Davis, George E. Troxall, and Clement T. Wiskocil, Testing and inspection of engineering materials. McGraw-Hill, New York, 1941. 372 pp. (Bibliography, over 1000 references).

6003. Carlo Gaggia, Analisi e prove materiali. Idea, Udine (Italy), 1942. 454 pp.

6004. Richard Glocker, Materialprüfung mit Röntgenstrahlen, unter besonderer Berücksichtigung der Röntgenmetallkunde. Springer Verlag, Berlin, 1949. 440 pp.

6005. Heinz Gramm, Werkstoffe. A. Ziemsen Verlag, Wittenberg, 1945.
Vol. 1, Grundbegriffe der Werkstoffprüfung, Werkstoffnormung, Eisen und Stahl (Ed. 4); bibliography; pp. 292-294.
Vol. 2, Nichteisenmetalle und Nichtmetalle (Ed. 3); bibliography; pp. 254-256.

6006. Rudolf Lindemann and Max Pfender, Verfahren zur zerstörungsfreien Werkstoffprüfung. Siemens, Berlin, 1948. 76 pp.

6007. Leno C. Michelon, Industrial inspection methods. Harper & Brothers Publications, New York, revised ed., 1950. 566 pp.

6008. Ministry of Supply, and Technical Information & Documents Unit. Strength and testing of materials: selected government research reports, Vol. 6. H. M. Stationery Office, London, 1952.

6009. Wesley Mollard, Essentials of precision inspection. McGraw-Hill, New York, 1944. 207 pp.

6010. Gerner A. Olsen, Strength of materials. Prentice-Hall, New York, 1949. 442 pp.

6011. Erich Siebel, Handbuch der Werkstoffprüfung. J. Springer Verlag, Berlin. Vol. 1, 1940; 658 pp. Vol. 3, 1941; 800 pp.
Vol. 2, 1939; 744 pp. Vol. 4, 1944; 396 pp.

6012. H. F. Trewman, Mechanical inspection. Sir Isaac Pitman & Sons, Ltd., London, 1946. 164 pp.

6013. Otto Vaupel. Zerstörungsfreie Werkstoffprüfung mit Röntgen- und Gammastrahlen. O. Salle, Frankfurt, 1944. 128 pp.

2.3. Books; Testing and Inspection
6100. Specific

- 6100. American Society for Testing Materials, Shear testing of soils. Philadelphia, 1939. 122 pp. (8 papers, some with bibliography).
- 6101. Coyne Elect. School, Modern radio instruments and testing methods. Chicago, 1947. 343 pp.
- 6102. A. L. van Dijke, Materialenkennis voor electriciens en instrumentmakers: Leerboek voor het rijverheidsonderwijs. Uitgeverij van A. Kemperman, Haarlem, 1948. 177 pp.
- 6103. General Electric Co., Instructions for testing electrical apparatus. Schenectady, New York, Ed. 2, 1941. 581 pp.
- 6104. Carl L. Frederick and Associates, Electronics test equipment sheets. Bethesda, Md., 1954. 3 vols. 2268 pp. Vol. 1 - Voltage, current, frequency and wave form measuring equipment. Vol. 2 - Signal generating and time-based measuring and counting equipment; field intensity, and impedance and standing wave ratio measuring equipment; amplifying equipment for test purposes. Vol. 3 - Combination and group test sets; power measuring equipment; calibrating equipment and associated devices for electronics test equipment; and miscellaneous test equipment.
- 6105. Foster M. Gruber, Automotive engine testing: manual of test procedure. Pitman Publishing Corp., New York, 1940. 441 pp.
- 6106. H. F. Hamburg, J. L. Saunderson, R. S. Segsworth, E. O. Dixon, C. M. Lichy, C. S. Barrett and H. T. Clark, Electronic methods of inspection of metals. American Society for Metals, Cleveland, 1947. 189 pp.
- 6107. Ministry of Supply, and Technical Information and Documents Unit, Textiles and their testing: selected government and research reports, Vol. 4. H. M. Stationery Office, London, 1949. 86 pp., bibliographies.
- 6108. Werner Oeser, Prüfgeräte für die Textilindustrie. Ed. 2, 1952. 272 pp.
- 6109. Harry B. Pulsifer, Inspection of metals. American Society for Metals, Cleveland, 1941. 180 pp.
- 6110. Karl Schmiedel, Prüfung der Elektrizitäts-Zähler; Messeinrichtungen, Messmethoden und Schaltungen. Springer Verlag, Berlin, Ed. 3, 1940 (reprinted 1946). 189 pp.

2.3. Books; Testing and Inspection
6100. Specific (Cont.)

- 6111. K. Schoenart and R. Eschelbach, Praktische Metallprüfung. I. Mechanischtechnologische Prüfverfahren und ihre Anwendung. Westermanns Fachbücher, Braunschweig, 1950. 274 pp. (Tables for hardness determinations and for tensile testing are published and sold separately in two supplements. 32 and 68 pp.).
- 6112. John H. Skinkle, Textile testing: physical, chemical and microscopical. Chemical Publishing Co., Brooklyn, New York, Ed. 2, 1949. 320 pp.
- 6113. James Spencer, Maintenance and servicing of electrical instruments. Instruments Publishing Co., Pittsburgh, Ed. 3, 1951. 256 pp.
- 6114. G. W. Stubbings, Electricity meters and meter testing. Chapman & Hall Ltd., London, 1947. 220 pp.
- 6115. C. J. Tagliabue Mfg. Co., Tag manual for inspectors of petroleum. Brooklyn, New York, Ed. 27, 1946. 157 pp.

2.3. Books
7000. Supplement

(1000) Automatic Control

- 7000. Robert A. Bruns and Robert M. Saunders, Analysis of feedback control systems. McGraw-Hill Book Co., New York, 1955. 383 pp.

(2100) Chemistry

- 7005. Roger G. Bates, Electrometric pH determinations, theory and practice. National Bureau of Standards, John Wiley & Sons, New York, 1954. 331 pp.
- 7006. R. F. Glascock, Isotopic gas analysis for biochemists. Academic Press, New York, 1954. 247 pp.
- 7007. Arnold Weissberger, editor, Physical methods of organic chemistry. Vol. 1, 2 parts, Technique of organic chemistry. Interscience Publishers, New York, 2nd edition, 1949. 2096 pp.

2.3. Books
7000. Supplement (Cont.)

(2400) Electronics

7010. Thomas L. Martin, Jr., Electronic circuits. Prentice-Hall, New York, 1955. 707 pp.

7011. Samuel Seely, Electron-tube circuits. McGraw-Hill, New York, 1950. 529 pp.

(2500) Experiments, Design and Evaluation of

7015. Oscar Kempthorne, The design and analysis of experiments. John Wiley & Sons, New York, 1952. 631 pp.

(3000) Mechanics

7020. E. Buckingham, Analytical mechanics of gears. McGraw-Hill, New York, 1949. 546 pp.

7021. K. I. T. Richardson, The gyroscope applied. Philosophical Library, New York, 1954. 384 pp.

(3100) Metallurgy; Stress and Strain

7025. C. C. Perry and H. R. Lissner, The strain gage primer. McGraw-Hill, New York, 1955. 281 pp.

(3300) Metrology; Geodesy

7030. W. Felgentraeger, Sensitive balances, weighing and weights. In German. Julius Springer, Berlin, 1932. 308 pp.

7031. Institute of Physics, The physics of particle size analysis. British Journal of Applied Physics Supplement No. 3, London, 1954. 218 pp.

7032. John D. Isaacs and C. D. O'DIselin, Oceanographic instrumentation. Conference, Rancho Santa Fe, California, June 1952. National Research Council, Washington. Publication No. 9, 1952. 232 pp.

2.3. Books
7000. Supplement (Cont.)

(3300) Metrology; Geodesy (Cont.)

7033. Max Raudnitz, The construction of balances. In German. Verlag von Bernh. Friedr. Voight, Leipzig, 1935. 411 pp. 152 references.

(3700) Radiation

7035. H. S. Peiser, H. P. Rooksby and A. J. C. Wilson, editors, X-ray diffraction by polycrystalline materials. Institute of Physics, 1955. 725 pp. References, 30 pp.

(3900) Sound

7040. T. F. Huester and R. H. Bolt, Sonics - Techniques for the use of sound and ultrasonics in engineering and science. John Wiley & Sons, New York, 1955. 456 pp.

(5000) Reference Books; Handbooks

7050. John P. Buchanan, Handbook of piezoelectric crystals for radio equipment designers. Air Force, Wright Air Development Center, Technical report 54-248, 1954. 591 pp. Distributed by Office of Technical Services, Dept. Commerce, Washington, D. C.

7051. R. S. Burdon, Surface tension and the spreading of liquids. Cambridge University Press, 1949. 92 pp.

7052. Compressed Air and Gas Institute, Compressed air handbook. McGraw-Hill Book Co., New York, 1954. 335 pp.

7053. W. W. Grings, Laboratory instrumentation in psychology. National Press, Palo Alto, California, 1954. 282 pp.

7054. J. McKeown, The properties of soft solders and soldered joints. London, British Nonferrous Metals Research Association, 1948. 118 pp.

7055. Russell H. Morgan, editor, Handbook of Radiology. Year Book Publishers, Chicago, 1955. 518 pp.

2.4. Dissertations and Theses

- D1. Doctoral dissertations accepted by American Universities. Annual, 1933-. H. W. Wilson Co., New York; compiled at the University of Illinois. (Preceded by Doctorates Conferred in the Sciences by American Universities, Annual, 1919-1932, National Research Council, Washington). Includes a table of university rules and practices in publication and loaning; also a list of current university serials which abstract dissertations.
- D2. Mikulaschek, W., editor. Die Dissertationen der Eidgenössischen Technischen Hochschule, 1909-1946. 1948. 142 pp. Verlag A.-G. Gebr. Leeman & Co., Zurich.
- D3. Ministère de l'Éducation Nationale, France. Catalogue des thèses et écrits académiques, 1884-1939 (Catalogue of academic theses and writings, 1884-1939). 1885-1944. Cercle de la Librairie, Paris.
- D4. T. R. Palfrey and H. E. Coleman, Guide to bibliographies of theses. American Library Association, Chicago; Ed. 2, 1940.
- D5. Jahresverzeichnis der deutschen Hochschulschriften. Annual, 1885-. Deutsche Bücherei, Leipzig.
- D6. P. D. Record, Survey of theses literature in British libraries. Library Association, London, 1950. 20 pp.
- D7. P. D. Record, Index to theses accepted for higher degrees in the universities of Great Britain and Ireland. Vol. 1, 1950-1951. Association of Special Libraries and Information Bureau, London, 1953. 157 pp.
- D8. American Chemical Society, Committee on Professional Training, Faculties publications and doctoral thesis in chemistry and chemical engineering at United States universities. 1953.
- D9. Dissertation abstracts. Irregular, 1948-. Microfilm abstracts, to 1951. University Microfilms, Ann Arbor, Michigan.

2.5. Directories of Manufacturers; Buyers' Guides; Exhibit Guides

- D100. Gerbert Bretschneider, editor, Achama Jahrbuch: Berichte über Stand und Entwicklung des chemischen Apparatewesens. Dechema (Deutsche Gesellschaft für chemisches Apparatewesen zur Förderung der chemischen und verbrauchsgüter-Technik e.V.), Frankfurt/Main, 1952. 532+xl+152 pp.

2.5. Directories of Manufacturers; Buyers Guides; Exhibit Guides (Cont.)

D100. (Continued)

- I. Allgemeiner Teil
- II. Laboratoriums-Technik; Mess- und Regel-technik; Betriebs-Technik
- III. Hilfsmittel der chemischen Technik
- IV. Anzeigen-Teil.

Published for each Achema Fair; this is for Achema I. Achema IX of 1950, after a 10-year lapse, had a 700-page Achema-Jahrbuch covering the decade 1940-1950.

D101. American Society of Mechanical Engineers, Mechanical catalog, New York, Annual. 1954 issue. 656 pp.

D102. Atomic Energy Commission, Radiation instrument catalog. Oak Ridge, Tennessee (Catalog No. 3, 1952).

D103. British Instrument Industries Exhibition, July 4 to 14, 1951. Official Catalogue. F. W. Bridges & Sons, Ltd., London, 1951. 118 pp.

D104. Canadian Manufacturers Association, Inc., Canadian Trade Index. Toronto, Canada, 1954. 1126 pp. 10,000 manufacturers listed.

D105. Chemical Engineering Catalog. Annual, Reinhold Publishing Co.

D106. Design news reference manual. Rogers Publishing Co., Detroit, Michigan. First issue 1953. 591 pp.

D107. Directory and Handbook of the Scientific Instrument Manufacturers Association of Great Britain, Ltd., SIMA, London, 1951.
1. Microscopes, binoculars, telescopes, etc.
2. Nautical, aeronautical and survey, including geophysical, meteorological and fire control apparatus
3. Engineering measuring instruments
4. Laboratory, research and medical apparatus
5. Ophthalmic lenses
6. Electronic instruments
7. Process control instruments.

D108. Electronics buyers guide, Supplement to Electronics. McGraw-Hill, New York, Annual, 1954 issue. 216 pp.

D109. 48e Exposition d'instruments et matériel scientifiques, 1951: Catalogue. Société Française de Physique, Paris. 339 pp.

D110. Guide des machines, appareils et outils; self published, Geneva, 1951. 1388 pp. (In French, German, English, Spanish and Italian).

2.5. Directories of Manufacturers; Buyers Guides; Exhibit Guides (Cont.)

D111. Handbook of material trade names. Industrial Research Service, Dover, N. H., 1953 issue, 794 pp.

D112. Handbook of product design. Annual, McGraw-Hill, New York.

D113. Handbook of scientific instruments and apparatus as shown at the 35th Physical Society Exhibition, 1951. Physical Society, London. 244 and A72 pp.

D114. Institute of Aeronautical Sciences, Aeronautical engineering catalog. New York, Annual. 1954 issue, 430 pp.

D115. Instruments index. Supplement to Instruments. Instruments Publishing Co., Pittsburgh. Biannual. 1954 issue, 212 pp. (List of instruments and U. S. manufacturers).

D116. Instrument manual. United Trade Press, Ltd., (for Instrument Practice), London, 1949. 548 + cxiii pp. 18 chapters, each with bibliography and buyers' guide. Four special sections:
Recent British patents
Organizations interested in instruments
Publications directly associated with instruments
Directory of manufacturers.

D117. Instrument manufacturing guide. Instruments Publishing Co., Pittsburgh. Biannual. Issued as supplement to Instrument Manufacturing.

D118. MacRae blue book. Annual. MacRae Blue Book Co., Chicago. Approx. 4200 pp.

D119. Nucleonics buyers' guide, Nucleonics, November issue, 1954. McGraw-Hill, New York. 229 pp.

D120. National Institutes of Health, Research equipment exhibit (2nd Annual), U. S. Public Health Service, Bethesda, Maryland, May 1952. Also 1953 and 1954.

D121. Thomas' Register of Manufacturers. Thomas Publishing Co., New York, Ed. 43, 1953. Annual.
Vol. I, Products, A-L; 3552 pp.
Vol. II, Products, M-Z; 3818 pp.
Vol. III, Manufacturers, A-Z; Trade Names, A-Z; Commercial Organizations, A-Z; Trade Papers, A-Z; 1088 pp.

2.5. Directories of Manufacturers; Buyers Guides; Exhibit Guides (Cont.)

D122. Times survey of the British scientific instrument industry. London Times and Scientific Instrument Manufacturers' Association of Great Britain, London, 1947. 48 pp.

D123. Verein deutscher Maschinenbau-Anstalten, Handbuch der Maschinen-Industrie. Frankfurt, 1953. 873 pp. Directory of 3000 West-German machine tool firms. (Available from Business Publications, Mamaroneck, New York).

2.6. Guides to Technical Literature
G100. Chemistry; Engineering; Physics

Note: See also Indexes and Bibliographies.

G100. E. J. Crane and Austin M. Patterson, Guide to the literature of chemistry. John Wiley & Sons, New York, 1927. 438 pp. (New edition in preparation).

G101. Blanche H. Dalton, Sources of engineering information. University of California Press, Berkeley, 1948. 109 pp.

G102. M. Guy Mellon, Chemical publications; their nature and use. McGraw-Hill, New York; Ed. 2, 1940. 284 pp.

G103. Ohio State University, Naming and indexing of chemical compounds by chemical abstracts: introduction to the 1945 subject index. Chemical Abstracts, Columbus, 1946.

G104. Nathan G. Parks III, Guide to the literature of mathematics and physics, including related works on engineering science. McGraw-Hill, New York, 1947. 205 pp.

G105. Arthur D. Roberts, Guide to technical literature; Introd. chapters and engineering. Grafton & Co., London, 1939. 279 pp. (Classified by subjects).

G106. Maria Serrallach, Bibliografia quimica: Documentacion cientifico-industrial. Imprenta Claraso, Barcelona; Ed. 1, 1946. 358 pp.

G107. Byron A. Soule, Library guide for the chemist. McGraw-Hill, New York, Ed. 1, 1938. 302 pp.

2.6. Guides to Technical Literature
G100. Chemistry; Engineering; Physics (Cont.)

G108. Southeastern Research Institute, Directory of engineering data sources: Guide to American literature in engineering and related sciences. Atlanta, 1948. 63 pp.
I. Government printing office and federal agencies
II. Universities, colleges and state agencies
III. Scientific, technical and trade associations, societies and organizations
IV. Commercial publishers of periodicals and books
V. Classified section.

G109. American Chemical Society, Division of Chemical Literature, Searching the chemical literature. Symposium, Washington, 1951. 184 pp.

G110. Dwight E. Gray and Robert S. Bray, Abstracting and indexing services of physics interest. American Journal of Physics 18, 274-299, 1950. Reprinted, Office of Technical Services, Dept. Commerce, Washington, D. C., PB 99951. 26 pp. (75 cents).

G200. General

G200. Carter Alexander and Arvid J. Burke, How to locate educational information and data: Aid to quick utilization of the literature of education. Bureau of Publications, Teachers College, Columbia University, New York, Ed. 3, 1950. 441 pp. (Includes bibliographies).

G201. W. A. Bagley, Facts and how to find them. Pitman Publishing Corp., New York, Ed. 2, revised 1938. 117 pp.

G202. Elizabeth Gilbert Bowerman, Union list of technical periodicals. Special Libraries Association, New York, Ed. 3, 1947. 285 pp.

G203. Frantz Calot and Georges Thomas, Guide pratique de bibliographie. Librairie Delagrave, Paris, Ed. 2, (with Clement Duval) 1950. 278 pp. (General reference guide).

G204. J. Edwin Holmstrom, Records and research in engineering and industrial science. Chapman & Hall Ltd., London, Ed. 2, 1947. 366 pp.

G205. Lucy O. Lewton, The Special Libraries Association and literature searching. Chemical and Engineering, 29, 1951, pp. 5125-5127.

G206. Arthur D. Roberts, Introduction to reference books. Library Association, London, Ed. 2, 1951. 214 pp.

2.6. Guides to Technical Literature
G200. General (Cont.)

- G207. H. C. Roberts, Making the technical literature survey. Journal of the Instrument Society of America, 1, 18-20, October 1954.
- G208. Special Libraries Association Special Committee, compilers, Special libraries directory of the United States and Canada. Special Libraries Association, New York, 1935. 253 pp.
- G209. Constance M. Winchell, Locating books for interlibrary loan. H. W. Wilson Co., New York, 1930. 170 pp.
- G210. Constance M. Winchell, Guide to reference books. American Library Association, Chicago, Ed. 7, 1951. 645 pp. (Based on Ed. 6 by Isadore G. Mudge).

2.7. Indexes to Technical Literature
I100. General

Note: See also Bibliographies

- I100. Cumulative book index, 1933 to date. The H. A. Wilson Co., New York.
- I101. Daniel C. Haskell, compiler, Checklist of cumulative indexes to individual periodicals in the New York Public Library, NYPL, 1942-. 370 pp.
- I102. Reginald R. Hawkins, editor, Scientific, medical and technical books published in the United States of America, 1930-1944: Selected list of titles in print, with annotations. Committee on Bibliography of American Scientific and Technical Books, National Research Council, Washington, 1946. 1114 pp. Supplement of books published 1945-1948; same, 1950. 514 pp.
- I103. Norma O. Ireland, Index to indexes: Subject bibliography of published indexes. F. W. Faxon Co., Boston, 1942. 107 pp.
- I104. Norma O. Ireland, editor, Local indexes in American libraries: Union list of unpublished indexes. F. W. Faxon Co., Boston, 1947. 22 pp.
- I105. Library of Congress, East European accessions list. Monthly, 1952-. Washington, D. C.
- I106. Library of Congress, Monthly list of Russian accessions. 1948-. Washington, D. C.

2.7. Indexes to Technical Literature
II00. General (Cont.)

II07. Library of Congress, New serial titles; a union list of serials commencing publications after December 31, 1949. First series, 1953 cumulation, 1954. 249 pp.

II08. Library of Congress, Scientific and technical serial publications; United States 1950-1953. 1954. 238 pp. Includes both non-government and government periodicals.

II09. Library of Congress, Scientific and technical serial publications; Soviet Union, 1945-1953. Washington, 1954. 118 pp. With subject index.

II10. Huberta A. Prince, editor; Washington Book Mart; Descriptive guide to the libraries, field library services, public information offices, and procurement offices of the federal government located in Washington, D. C. Oceana Publications, New York, 1949. 260 pp. 1950 Supplement 21 pp., in book pocket, back cover.

Part I	Public information offices	pp.	1-48
Part II	Federal procurement offices		49-94
Part III	Libraries		95-232
Part IV	Field library services		233-248
	Indexes		249-260.

II11. Research and Development Board, Technical information activities of the Department of Defense. Special Committee on Technical Information. Science, 114, 653-661 (1951).

II12. Research and Development Board, Technical information facilities in the District of Columbia; mimeographed, 1951. 15 pp. (Unpublished).

II13. UNESCO, Index bibliographicus: Catalogue internationale des bibliographies courantes. Ed. 3, vol. 1, Science et technologie, 1951; 52 pp. (Note: editions 1, 1923 and 2, 1931 (420 pp.) were published by the League of Nations).

II14. Winifred Gregory, editor, Union list of serials in libraries of the U. S. and Canada. H. W. Wilson Co., New York, Ed. 2, 1943. 3065 pp. Supplements issued periodically.

2.7. Indexes to Technical Literature
I200. Instruments and Electronics

I200. American Society of Mechanical Engineers, Sources of information on instruments, Bibliography Committee, Industrial Instruments and Regulators Division, New York, 1945. 23 pp. (Superseded by this report).

I201. Australian Society of Instrument Technology, Australian instruments index, 1947, Melbourne. lii + 60 pp.

I202. Electronic engineering master index: subject index to the contents of electronic and allied engineering publications throughout the world. Electronics Research Publishing Co., New York.
1935-1945 edition, 209 pp.; superseded
by the...1925-1945 edition, 320 pp.
1946 edition, 202 pp.
1947-1948 edition, 339 pp.
1949 edition, 296 pp.

I203. Instruments library. Instruments 19, 1946, pp. 552-571. (List by subjects of books and reports in library of Instruments Publishing Co., Pittsburgh).

I300. Technical Literature other than Government Publications

I300. Air University Library, Periodical index. Quarterly, 1951-. Maxwell Air Force Base, Alabama. (Indexes 24 periodicals, Mostly military and not covered by commercial indexes.)

I301. American Society of Mechanical Engineers, Sixty-year index to ASME technical papers, New York, 1941. (Indexes the Transactions, 1880-1939, and Mechanical Engineering, 1908-1939).

I302. American Society for Testing Materials, Fifty-year index to technical papers and reports (1901-1950). 1916 Race St., Philadelphia 3, Pa. August, 1952. 230 pp.

I303. Association des Ingénieurs Sortis de l'École de Liège; Revue universelle des Mines, de la Métallurgie, des Travaux Publics, des Sciences et des Arts Appliqués a l'Industrie. (Universal review of mines, metallurgy, public works, science, and industrial arts). Monthly, 1857-, except 1915-1918.

I304. Association of Special Libraries and Information Bureaux; Select list of standard British scientific and technical books. Ed. 3, 1946, London. 63 pp.

2.7. Indexes to Technical Literature

I300. Technical Literature other than Government (Cont.)

- I305. ASLIB book list. Quarterly, 1935-. Association of Special Libraries and Information Bureaux, London.
- I306. Chimie et Industrie. Monthly, 1918-. Société de Chimie Industrielle, Paris. "Documentation" section, contains classified abstracts of industrial and engineering chemical papers. Lists papers.
- I307. Helvetica Physica Acta. 1928-. Schweizerische physikalische Gesellschaft, Basel. Contains an annual bibliography.
- I308. Industrial arts index. Eight issues per year, 1913-. Cumulated from issue to issue, then annually and biennially. H. W. Wilson Co., New York.
- I309. Institution of Engineers, Library bulletin; Subject index of papers, articles, etc., selected from current publications. Monthly. Sydney, Australia. (About 3000 entries annually).
- I310. Institution of Mechanical Engineers, Brief subject and author index of papers in the Proceedings, 1847-1948, 1949. 224 pp., London.
- I311. Lester E. Kuentzel, Codes and instructions for Wyandotte punched cards indexing infrared absorption spectrograms. Wyandotte Chemicals Corp., Wyandotte, Mich., 1951. 12 pp.
- I312. Lester E. Kuentzel, Codes and instructions for Wyandotte punched cards indexing x-ray diffraction powder data. Wyandotte Chemicals, Corp., Wyandotte, Mich., 1951. 12 pp.
- I313. Nederlandsch Instituut voor Documentatie en Registratuur, Repertorium Technicum, 1931-, Den Haag. (International bibliography of technical books and articles).
- I314. Neue technische Bücher (new technical books). Monthly, 1924-. Boysen und Maasch, Hamburg.
- I315. Polytechnische Bibliothek (technical library). Monthly, 1866-, except 1918-1924. J. A. Barth, Leipzig.
- I316. Radiofile: Technical information guide; Complete subject index to all (1951) radio magazines. Bimonthly, 1946-. (Covers 15 English-language periodicals).
- I317. Royal Society, Catalogue of scientific papers, 1800-1900. 19 vols. 1867-1925. Cambridge.

2.7. Indexes to Technical Literature
I300. Technical Literature other than Government (Cont.)

I318. Daphne Shaw, compiler, Catalogue of British scientific and technical books, Ed. 2, 1930. 754 pp. British Science Guild, London. 13915 titles classified by titles, with author and subject index.

I319. Societa Generale della Messagerie Italiane di Giornali, Riviste, Libri; Giornale di bibliografia tecnica internazionale (International Journal of Technical Bibliography). 1925-. Bologna.

I320. Société Française de Physique, Revue bibliographique. 1920-. Paris. In the Journal de Physique et le Radium.

I321. Society of Exploration Geophysicists, Cumulative index of publications, 1931-1947. Tulsa, Oklahoma, 1948. 127 pp.

I322. V.D.I. Jahrbuch (Yearbook of the Society of German Engineers). Annual, 1934-. VDI Verlag, Berlin. A review with marginal references, subject index. After 1937, it includes a bibliography of new books.

I323. World list of scientific periodicals published in the years 1900-1933. Ed. 2, 1934. 780 pp. Oxford University Press, London.

I324. J. Zeman, Inhalt der mechanisch-technischen Zeitschriften (Contents of mechanical-technical journals). Verein deutscher Ingenieure, Berlin. Published as a supplement to the Zeitschrift des Vereines deutscher Ingenieure, vol. 35, 1891, to vol. 41, 1897.

I400. Technical Literature
Government Publications and Reports

I400. Armed Services Technical Information Agency (ASTIA), Title announcement bulletin (TAB). Irregular, 1953-. Washington, D. C. Limited circulation, for official use by Defense Department research and development agencies or their contractors only. Reports to and by government agencies are listed.

I401. Anne M. Boyd, editor, U. S. Government publications. H. W. Wilson Co., New York, Ed. 3 by Rae Elizabeth Rips, 1950. 627 pp. (Includes bibliographies).

I402. Canadian Defence Research Board, Documents digest. Irregular, 1952-. Ottawa. (About 100 abstracts per issue).

2.7. Indexes to Technical Literature
I400. Technical Literature
Government Publications and Reports (Cont.)

I403. Corps of Engineers, Weekly periodical index. Engineer School Library, Fort Belvoir, Virginia. (Lists periodical articles and technical reports).

I404. Department of Commerce, U. S., Publications. (Up to Nov. 1950). U. S. Government Printing Office, Washington 25, D. C. 795 pp., 1952. With index. Supplements are issued.
Includes publications of Civil Aeronautics Administration, Coast and Geodetic Survey, Patent Office, Bureau of Public Roads, National Bureau of Standards, Office of Technical Services and Weather Bureau.

I405. O. W. Holloway and O. B. Isaac, compilers, Classified list of OTS printed reports. United States, Office of Technical Services, Report PB 81500, 1947. 57 pp. (List of reports on German and Japanese technology prepared by American investigators).

I406. Library of Congress, Technical information pilot (TIP). Irregular, 1946-1953. Technical Information Division, Washington (under contract to the Office of Naval Research). Limited circulation, for official use by Defense Department research and development agencies or their contractors. Replaced by TAB, I400.

I407. National Advisory Committee for Aeronautics, Index of NACA technical publications, 1915-1947. Washington, 1948. 385 pp. With supplements, last covering June 1953-May 1954.

I408. National Advisory Committee for Aeronautics, Research abstracts. Bi-weekly, 1951-. Washington. (Abstracts for unclassified NACA reports).

I409. National Bureau of Standards, Publications of NBS, 1901-June 30, 1947. U. S. Government Printing Office, Washington 25, D. C. NBS Circular No. 460, 1948. 375 pp. Supplementary list of publications July 1, 1947-June 30, 1952, supplement to NBS Circular No. 460, 1952. 223 pp. All with abstracts and index. Supplements issued periodically.

I410. Office of Naval Research, Digital computer newsletter. Irregular. Washington. (For official use only; unclassified).

I411. Office of Technical Services, U. S. Government research reports. Before 1954, Bibliography of technical reports. Monthly, 1946-. U. S. Government Printing Office, Washington, D. C.

2.7. Indexes to Technical Literature
I400. Technical Literature
Government Publications and Reports (Cont.)

I412. Hazel J. Stratton and Mabel E. Winslow, List of publications of the Bureau of Mines, July 1, 1910-January 1, 1949. Bureau of Mines, 1950. 460 pp., with index.

2.8. Patents

P1. Leon H. Amdur, Patent fundamentals. Clark Boardman Co., New York, 1948. 305 pp. (U. S. Patent system, for "laymen and students").

P2. Bulletin analytique des brevets français. Annual, 1944-. Association pour l'utilisation et la diffusion de la documentation, Lyons.

P3. Bulletin Officiel de la Propriété Industrielle et Commerciale. Office Nationale de la Propriété Industrielle, Paris. Titles; no claims or abridgments.

P4. Canadian Patent Office record. Weekly, 1873-, Ottawa. (Claims and drawings; Canadian patents were not printed until 1949, but photocopies can be purchased).

P5. Deutsches Reichspatentamt, Auszüge aus den Patentschriften. Weekly, 1877-. Berlin. (Claims and drawings).

P6. Electronic engineering patent index. Electronics Research Publishing Company, New York, Annual 1946-. (U. S. Patents).

P7. Government Patents Board, U. S., Patent abstract #1, Instrumentation, Government-owned inventions available for license. Office of Technical Services, Department of Commerce, Washington, 1953. 70 pp.

P8. Kaiserliches Patentamt, Verzeichnis der von dem Kaiserlichen Patentamt erteilten Patente (Index of patents granted by the imperial patent office). Biannual and annual, 1877-. Berlin.

P9. Patent Office, Abridgments of specifications. Irregular, 1617-. London.

P10. Patent Office, Subject matter index of specifications of patents. 1617-1930. 1857-1931. London. The first index covered the years 1617-1852; thereafter they appeared annually. After 1930, the subject index appears in the Abridgments of Specifications.

2.8. Patents (Cont.)

Pl1. Patent Office, Abridgment class, classification and index key. 40 sections in 2 vol. 1937. London. The same. Supplement No. 1, 1939.

Pl2. Patent Office, Key to the classifications of the patent specifications of France, German, Austria, Netherlands, Norway, Denmark, Sweden and Switzerland in the library of the Patent Office. Ed. 3, 1915. 190 pp. London.

Pl3. Patent Office, Manual of classification. Washington. (Looseleaf; kept up to date for subscribers by issuing amendments and additions. Lists of all U. S. Patents in any subclass can be purchased from the Commissioner of Patents).

Pl4. Patent Office, United States, Official gazette. Weekly, 1872-. Superintendent of Documents, Washington. (Claims and drawings).

2.9. Periodicals

Pl00. Aeronautics; Meteorology; Navigation

Pl00. Aero digest. Monthly, 1921-. New York. (Includes some abstracts).

Pl01. Aeronautical engineering review. Monthly, 1942-. Institute of the Aeronautical Sciences, New York. Carries abstract section, Aeronautical Reviews.

Pl02. Aeronautics. Quarterly, 1949-. Institute of the Aeronautical Sciences, New York.

Pl03. Aircraft engineering. Monthly, 1929-. London.

Pl04. Aviation week. Weekly, 1916-. McGraw-Hill, New York.

Pl05. Honeywell flight lines. Bimonthly, 1950-. Minneapolis-Honeywell Regulator Co., Aeronautical Division, Minneapolis, Minn.

Pl06. Jet propulsion; Journal of the American Rocket Society. Bimonthly, 1930-. Monthly, 1955-. New York.

Pl07. Journal of the aeronautical sciences. Monthly, 1934-. Institute of the Aeronautical Sciences and American Institute of Physics, Albany, New York

Pl08. Journal of aviation medicine. Bimonthly, 1930-. Aero Medical Association, Rockville Center, New York. List of current literature.

2.9. Periodicals
P100. Aeronautics (Cont.)

- P109. Journal, Institute of Navigation. Monthly, 1948-. Royal Geographic Society, London.
- P110. Journal of meteorology. Bimonthly, 1944-. American Meteorological Society, Boston, Mass.
- P111. Journal, Royal Aeronautical Society. Monthly, 1897-. London.
- P112. Journal scientifique de la météorologie. Quarterly, 1949-. Societe Météorologique de France, Paris.
- P113. La recherche aeronautique. Bimonthly, 1948-. Office National d'Etudes et de Recherches Aéronautiques, Chatillon-Sous-Bagneux, France.
- P114. Luftfahrtforschung. Monthly, 1928-. (Suspended 1932-1933), Wissenschaftliche Gesellschaft für Luftfahrt, Munich.
- P115. Reports and memoranda, Aeronautical Research Council. Irregular, 1910-. Great Britain, H. M. Stationery Office, London. Over 2900-mark in 1954.
- P116. NACA reports. Irregular, 1915-. Also published annually in annual report. National Advisory Committee for Aeronautics, Washington. (Numbered consecutively; numbers over 1000 in 1952).
- P117. NACA technical memoranda. Irregular, 1921-. (Translations only). National Advisory Committee for Aeronautics, Washington.
- P118. NACA technical notes. Irregular, 1915-. National Advisory Committees for Aeronautics, Washington. (Numbered consecutively; numbers over 3000 in 1954).
- P119. Navigation. 1946-. Institute of Navigation. Los Angeles.
- P120. Publications scientifique et techniques. Irregular, 1930-. Ministère de l'Air, Paris. Over 275 reports issued up to 1953.
- P121. Quarterly journal, Royal Meteorological Society. Quarterly 1871, London.
- P122. Sperryscope. Quarterly, 1941-. Sperry Corp., Great Neck, New York.
- P123. Technique aéronautique. Monthly, 1910-, suspended 1914-1920, Paris. Has a separate section aeronauts.

2.9. Periodicals

P200. Automatic Control; Applied Statistics; Computers

P200. Applied statistics; a journal of the Royal Statistical Society. Three issues in 1954. 1952-. Oliver and Boyd, London.

P201. Automatic control. Monthly, July, 1954-. Rheinhold Publishing Corp., New York.

P202. Automation. Monthly, August 1954-. Penton Publishing Co., Cleveland.

P203. Avtomatika i telemekhanika. Bimonthly, 1936- (suspended 1942-1946). Institut avtomatiki i telemekhaniki, Akademiya nauk, Moscow. (Automatic control devices).

P204. Computers and automation. Edmund C. Berkeley and Associates. Monthly, 1951-. New York.

P205. Control engineering. Monthly, September 1954-. McGraw-Hill, New York.

P206. Journal, Association for Computing Machinery. Quarterly, 1954-. New York.

P207. Journal, Operations Research Society of America. Quarterly, 1953-. Baltimore.

P208. Journal, Royal Statistical Society, Series B, Methodological. Semi-annual, 1934-. London.

P209. Misure e regolazioni. Bimonthly, 1953-. Associazione Termotecnica Italiana, Milano.

P210. Regelungstechnik: Zeitschrift für Steuern und Regeln. Monthly, 1953-. Verlag, R. Oldenbourg, München.

P211. Reports of the Research Institute of Electrical Communication. Tohoku University, Irregular, 1949-. Sendai, Japan.

P212. SMPTE Journal. Monthly, 1930-. Society of Motion Picture and Television Engineers, New York.

P213. Transactions of the IRE, Institute of Radio Engineers, New York. Professional group on circuit theory. CT series, Quarterly 1954-. Professional group on electronic computers. EC series, Quarterly 1952-.

2.9. Periodicals
P300. Chemistry

P300. Analyst. Monthly, 1875-. Society of Public Analysts and other Analytical Chemists, Cambridge, England.

P301. Analytical chemistry. Monthly, 1928-. American Chemical Society, Washington.

P302. Canadian chemical processing. 1917-. MacLean Publications, Toronto.

P303. Chemical engineering progress. Monthly, 1908-. American Institute of Chemical Engineers, Philadelphia.

P304. Chemische Technik. Monthly, 1949-. Kammer der Technik, Berlin (East Zone).

P305. Chemische Apparatur, 1914-1942. Merged in 1943 with Chemische Technik (Berlin).

P306. Chemische Technik, Irregular, 1928-. 1943 absorbed Chemische Apparatur: Zeitschrift für die maschinenellen und apparativen Hilfsmittel der chemischen Technik, 1913-1942. Verein deutscher Chemiker, Berlin.

P307. Chemist-Analyst. Quarterly 1912-. J. T. Baker Chemical Co., Phillipsburg, New Jersey.

P308. Chimie analytique: essais, mesures, controle. Monthly, 1897-. Presses Documentaires and Centre de Documentation Chimique, Paris. (Includes an abstract section). Appeared as Annales de chimie analytique, (1897-1946).

P309. Congrès du groupement pour l'avancement des méthodes d'analyse spectrographique des produits métallurgiques. L'Office professionnel de la sidérurgie, Paris. (The 5th Congress was held in Paris in 1946).

P310. Geochimica et cosmochimica acta. Bimonthly, 1950-. Academic Press, New York.

P311. Industrial and engineering chemistry. Monthly, 1909-. American Chemical Society, Washington.

P312. Journal de chimie physique et de physiochimie biologique. Monthly, 1903-. Société de chimie physique, Paris.

2.9. Periodicals
P300. Chemistry (Cont.)

P313. Journal of physical chemistry. Bimonthly, 1896-. Williams & Wilkins Co., Baltimore (for the American Chemical Society, Chemical Society, and Faraday Society).

P314. Journal of the Oil and Colour Chemists Association. Monthly, 1918-. London.

P315. Mikrochimica Acta. Irregular, (500 pages yearly) 1914-. Springer-Verlag, Vienna. Papers in English, French or German.

P316. Transactions of the Electrochemical Society. Semiannual, 1902-. New York.

P317. Zavodskaya laboratoriya (Factory Laboratory). Monthly, 1935-. Moscow.

P318. Zeitschrift für analytische Chemie. Irregular, 1862-. Munich.

P319. Zeitschrift für Elektrochemie; Berichte der Bunsengesellschaft für physikalische Chemie. Irregular (9 issues in 1954), 1894-. Verlag Chemie, Berlin. (East Zone).

P320. Zeitschrift für physikalische Chemie. Irregular, 1954-. Akademische Verlagsgesellschaft, Frankfurt am Main.

P321. Zeitschrift für physikalische Chemie. Irregular, 1887-. Chemische und Physikalische Gesellschaft, Deutsche Demokratische Republik, Leipzig.

P322. Zhurnal analiticheskoi khimii. Bimonthly, 1946-. Moscow.

P323. Journal, American Chemical Society. Semimonthly, 1877-. Washington, Physical, inorganic, organic and biological chemistry.

P400. Electricity; Electronics; Communications; Radio

P400. Advances in electronics. Annual, 1948-. Academic Press, New York. (No issue in 1949).

P401. AEG Mitteilungen. Irregular, 1905-1944. Allgemeine Elektrizitäts-Gesellschaft, Berlin. (An English edition, AEG Progress, was started in 1925).

P402. AEG technischer Jahresbericht. Annual, 1928-. Allgemeine Elektrizitäts-Gesellschaft, Berlin.

2.9. Periodicals
Pl00. Electricity (Cont.)

Pl03. Alta frequenza: rivista di radiotecnica, telefonia e acustica applicata. Bimonthly, 1932-. Associazione elettrotecnica italiana, Milan. (Summaries of papers in English, French and German).

Pl04. Applications and industry. Bimonthly. (No. 15, November 1954). American Institute of Electrical Engineers, New York.

Pl05. Archiv für Elektrotechnik. Monthly, 1907-. Springer-Verlag, Berlin.

Pl06. BEAMA: Journal for the British Electrical Industry. Monthly, 1892-. British Electrical and Allied Manufacturers' Association, London.

Pl07. Bulletin de l'Association Suisse des Electriciens. Biweekly, 1910-. Zurich.

Pl08. Bulletin de la Société Française des Electriciens. Monthly, 1884-. Gauthier-Villars, Paris.

Pl09. Communications and electronics. Bimonthly (No. 15, November 1954). American Institute of Electrical Engineers, New York.

Pl10. Communications and electronics. Monthly, 1954-. Haywood & Co., London.

Pl11. Communication review. Quarterly, 1951-. T. S. Skillman & Co., Pty. Ltd., Sydney, Australia. (Includes data sheet inserts).

Pl12. Electrical communication. Quarterly, 1924-. International Telephone and Telegraph Corp., New York.

Pl13. Electrical engineering: monthly journal and transactions of the American Institute of Electrical Engineers, 1882-. New York.

Pl14. Elektrichestvo. Monthly, 1880-. Moscow. (Includes electrical instruments).

Pl15. Elektrische Nachrichtentechnik. Monthly, 1924-1944, Berlin.

Pl16. Electronic engineering. Monthly, 1929-. Gage Publ. Co., London.

Pl17. Electronic industries and electronic instrumentation. Monthly, 1947-. New York.

2.9. Periodicals
P400. Electricity (Cont.)

P418. Electronics. Monthly, 1930-. New York. Cumulative index, vols. 1-12 (1930-1939), published as supplement, June Midmonth Issue, 1951; vols. 13-22 (1940-1949), June Midmonth Issue, 1952.
Electronics Buyers' Guide is an annual supplement (June issue).

P419. Electrotechnics. Irregular, 1926-. Electrical Engineering Society, Indian Institute of Science, Bangalore.

P420. Elektrotechnicky obzor: casopis ustredi vyzkumu, a technickeho rozvoje. Semimonthly, 1912-. Prague. (Includes an abstract section). Papers in Czech; summaries in Russian, English and French.

P421. Elektrotechnische Zeitschrift und Elektrotechnik und Maschinenbau. Biweekly, 1880-. Berlin. Title sometimes appears as ETZ and EuM.

P422. Elektron in Wissenschaft und Technik. Irregular, 1947-. Elektron-verlag, Munich.

P423. Elektrotechnik und Maschinenbau. Zeitschrift des Elektrotechnischen Vereines Oesterreichs. Biweekly, 1884-. Vienna.

P424. Elettronica e televisione italiana. Bimonthly, 1952-. Edizioni Radio Italiana, Turin.

P425. Entwicklungsberichte der Siemens und Halske Aktiengesellschaft. Irregular, 1938-. Siemens & Halske A.-G., Berlin. (Carries original papers, and reprints from other journals, by Siemens-Halske authors).

P426. Fernmeldetechnische Zeitschrift; FTZ. Monthly, 1948. Verlag Friedr. Vieweg & Sohn, Braunschweig.

P427. General Radio experimenter. Monthly, 1926-. General Radio Co., Cambridge, Mass.

P428. Journal of the British Institution of Radio Engineers. Monthly, 1934-. London.

P429. Monthly journal of the Electrical Communication Laboratory, 1948-. Ministry of Telecommunications, Tokyo. (In Japanese; abstracts in English).

P430. Oscillographer. Quarterly, 1940-. Allen B. Dumont Laboratories, Inc., Clifton, New Jersey.

2.9. Periodicals
Pl400. Electricity (Cont.)

Pl431. Power apparatus and systems. Bimonthly. (No. 15, December 1954). American Institute of Electrical Engineers, New York.

Pl432. Proceedings of the Institution of Electrical Engineers, 1872-. London.
Part 1, Monthly: General
Part 2, Bimonthly: Power Engineering
Part 3, Bimonthly: Radio and Communication Engineering
Part 4, Semiannually: Monographs.

Pl433. Proceedings of the IRE. Monthly, 1913-. Institute of Radio Engineers, New York. (Publishes the same abstract section as in Wireless Engineer, about 4000 abstracts annually).

Pl434. PTT: Bulletin technique. Monthly, 1923-. Administration des Postes, Télégraphes et Téléphones. Suisses.

Pl435. Radio-electronic engineering. Monthly, 1943-. Ziff-Davis Publishing Co., New York.

Pl436. RCA Review. Quarterly, 1940-. Radio Corporation of America, Princeton, New Jersey. Radio, electronics, research and engineering.

Pl437. Radiotekhnika. Monthly, 1946-. Moscow.

Pl438. Revue générale de l'électricité. Monthly, 1917-. Comité Electro-technique Française, et l'Union Technique des Syndicats de l'Électricité, Paris. (Formed by merging Revue électrique and Lumière électrique). Cumulative index every 10 volumes.

Pl439. Tele-Teck. Monthly, 1942-. Caldwell-Clements, Inc., Orange, Conn.

Pl440. The Post Office electrical engineers' journal. Quarterly, 1908-. The Institution of Post Office Electrical Engineers, London. Covers radio, telephone and telegraph engineering.

Pl441. The Sylvania technologist. Quarterly, 1948-. Sylvania Electric Products, Inc., Bayside, New York.

Pl442. Transactions of the IRE, Institute of Radio Engineers, New York. Professional groups on:
Audio. AU Series. Bimonthly, 1953-.
Aeronautical and navigational electronics. ANE Series. Irregular, 1954-.
Communications systems. CS Series. Semiannual, 1953-.
Component parts. PGCP Series. Irregular, 1954-.

2.9. Periodicals
P400. Electricity (Cont.)

P442. Continued

Electron devices. ED Series. Irregular, 1954-.
Information theory. PGIT Series. Irregular, 1953-.
Instrumentation. PGI Series. Irregular, 1953-.
Microwave theory and Techniques. MTT Series. Irregular, 1953-.
Nuclear science. NS Series. Irregular, 1954-.
Quality control. PGQC Series. Irregular, 1953-.
Radio telemetry and remote control. PGRTRC Series. Irregular, 1954-.
Ultrasonics engineering. PGUE Series. Irregular, 1954-.

P443. VDE-Fachberichte. Annual, 1937-. Verband deutscher Elektrotechniker, Wuppertal and Berlin. (Original papers in groups, some relating directly to instruments and instrumentation).

P444. Westinghouse engineer. Bimonthly, 1941-. Westinghouse Electric Corp., Pittsburgh.

P445. Wireless engineer. Monthly, 1923-. Radio Research Board, National Physical Laboratories; Iliffe & Sons, London. (Carries the same abstracts as in the Proceedings of the Institution of Radio Engineers, about 4000 annually).

P500. Glass; Oil and Gas; Plastics;
Refractories; Rubber; Textiles

P500. Journal of petroleum technology. Monthly, 1949-. American Institute of Mining and Metallurgical Engineers, Dallas.

P501. Journal, Society of Glass Technology. Bimonthly, 1917-. Sheffield, England.

P502. Oil and gas journal. Weekly, 1902-. The Petroleum Publishing Co., Tulsa, Oklahoma.

P503. Petroleum refiner. Monthly, 1922-. Gulf Publishing Co., Houston, Texas.

P504. Radex Rundschau. Bimonthly, 1949-. Austro-American Magnesite Co., Radenthein, Austria. Refractories.

P505. Research bulletin. Irregular, 1948-. Institute of Gas Technology, Chicago.

2.9. Periodicals

P500. Glass; Oil and Gas; Plastics
Refractories; Rubber; Textiles (Cont.)

P506. Rubber chemistry and technology. Quarterly, 1928-. Division of Rubber Chemistry, American Chemical Society, Lancaster, Pennsylvania.

P507. SPE journal. Monthly, 1945-. Society of Plastic Engineers, Greenwich, Connecticut.

P508. Textile research journal. Monthly, 1925-. Textile Research Institute, New York.

P600. Heat; Combustion; Engineering, General

P600. Archiv für Wärme- und Dampfkesselwesen; Zeitschrift für Energiewirtschaft. Monthly, 1920-. VDI-Verlag, Berlin.

P601. Askania-Warte. Bimonthly, 1936-. (House organ of Askania-Werke A.-G. Berlin-Friedenau; English edition, Quarterly, started as Askania Review in 1937).

P602. Bell Laboratories record. Monthly, 1922-. New York.

P603. Bell System technical journal. Bimonthly, 1921-. New York.

P604. Combustion. Monthly, 1929-. Combustion Publishing Co., New York. (An older journal, Combustion, 1910-1929, took the name Engineering and finance when the new journal Combustion started).

P605. Forschung auf dem Gebiete des Ingenieurwesens. Bimonthly after 1954, 1935-. Deutscher Ingenieur-Verlag, Düsseldorf.

P606. General Electric review. Monthly, 1903-. General Electric Co., Schenectady, New York.

P607. Heating and ventilating. Monthly, 1904-. Industrial Press, New York.

P608. Heating, piping and air conditioning. Monthly, 1929-. Keeney Publishing Co., Chicago. (Absorbed Journal of the American Society of Heating and Ventilating Engineers, 1896-1929).

P609. Industrial bulletin. Monthly, 1927-. (House organ of Arthur D. Little, Inc., Cambridge, Mass.).

2.9. Periodicals

P600. Heat; Combustion; Engineering, General (Cont.)

P610. Ingenieur-Archiv. Quarterly, 1929-. Springer-Verlag, Berlin.

P611. Memoirs of the Faculty of Engineering, Nagoya University. Irregular, 1949-. Nagoya. In English.

P612. Philips technical review: publication on lighting, electronics, x-ray and other technical subjects. Monthly, 1940-. N. V. Philips Gloeilampenfabrieken, Eindhoven, Holland, and North American Philips Co., Inc., Mt. Vernon, New York. (Also published in Dutch, German and French editions).

P613. Philips research reports. Bimonthly, 1946-. Eindhoven (Holland) and New York.

P614. Product engineering. Monthly, 1930-. McGraw-Hill, New York.

P615. Refrigerating engineering. Monthly, 1914-. American Society of Refrigerating Engineers, New York. Title was Journal of the ASRE, 1914-1922; preceded by Transactions of the ASRE, 1905-1914.

P616. SAE journal. Monthly, 1917-. Society of Automotive Engineers, New York.

P617. Siemens-Zeitschrift. Irregular, 1921-. Siemens und Halske A.-G., Berlin-Siemensstadt. (English edition, Siemens Review. Quarterly.)

P618. Technische Mitteilungen Krupp. Irregular, 1933-1943; resumed 1954. Grofa-Krupp, Essen.

P619. VDI. Zeitschrift des Vereines Deutscher Ingenieure. Every 10 days, 1857-. Düsseldorf.

P700. Instrumentation, General; Laboratory Techniques

P700. Allgemeine Vermessungsnachrichten. Irregular, 1889-. Liebenwerda, Germany. Carried on a supplement, Bildmessung und Luftbildwesen, 1926-1938.

P701. Apparatebau. Biweekly, 1889-. Hanover.

P702. Archiv für technisches Messen. Monthly, 1931-. Munich.

2.9. Periodicals
P700. Instrumentation, General (Cont.)

P703. Australian journal of instrument technology. Monthly, 1944-. Australian Society of Instrument Technology, Melbourne.

P704. Design News. Semimonthly, 1946-. Detroit.

P705. Glas und Apparat: Fachzeitschrift für die Glas-, Glasinstrumenten-Thermometer-, Laboratoriums-Apparate-Industrie und für die Elektro-Vakuum-Technik. Biweekly, 1920-. Weimar.

P706. Industrial laboratories: news magazine of research, product and process development, engineering. Monthly, 1950-. Chicago.

P707. Instrumentation. Quarterly, 1945-. Philadelphia. Industrial Division, Minneapolis-Honeywell Regulator Co.

P708. Instrument engineer. Semiannually, 1952-. George Kent, Ltd., Luton, England.

P709. Instrument manufacturing. Bimonthly, 1935-. Instruments Publishing Co., Pittsburgh. (Formerly Instrument Maker).

P710. Instrument practice. Monthly, 1947-. United Trade Press, Ltd., London. (Includes abstracts of British patents).

P711. Instruments and automation: Magazine of measurement and control. Monthly, 1954-. Pittsburgh. (Supersedes Instruments, 1928-1953). Publishes Instruments Index in one issue biannually.

P712. ISA journal. Monthly, 1954-. Instrument Society of America, Pittsburgh. Published in Instruments, 1946-1953.

P713. ISA Proceedings. Annual, 1947-. Instrument Society of America, Pittsburgh.

P714. Journal of scientific instruments. Monthly, 1924-. Institute of Physics, London.

P715. Laboratory practice. Monthly, 1952-. United Trade Press, Ltd., London.

P716. Lab world: News magazine of the clinical-scientific laboratory field. Monthly, 1950-. H. C. Simonson, Publisher, Los Angeles.

P717. Mekhanizatsiya trudoemkikh i tyazhelykh rabot. Monthly, 1947-. Moscow. (Labor-saving devices; includes some instrumentation and control).

2.9. Periodicals

P700. Instrumentation, General (Cont.)

P718. *Messtechnik*: Zeitschrift für zeitgemäße Betriebskontrolle und Werkstoffprüfung. Monthly, 1925-. Halle (Saale).

P719. *Mesures et contrôle industriel*. Monthly, 1935-. Paris. (Lists French patents on instruments, giving titles but no abstracts).

P720. Report of the British Scientific Instrument Research Association. Monthly, 1918-. British Scientific Instrument Research Association, London.

P721. Review of scientific instruments. Monthly, 1930-. American Institute of Physics, New York. Book reviews several times annually.

P722. Schweizerische Zeitschrift für Vermessungswesen und Kulturtechnik, Monthly, 1903-. Winterthur.

P723. Instruments in industry, incorporating instruments review. Monthly, 1954-. Herbert Publishing Co., London.

P724. Taylor technology. Quarterly, 1948-. Taylor Instrument Cos., Rochester, New York.

P725. Technique: a journal of instrument engineering. Quarterly, 1947-. House organ of Muirhead & Co., Ltd., Beckenham, England.

P726. Transactions of the Society of Instrument Technology. Quarterly, 1947-. London.

P727. Zeitschrift für Instrumentenkunde. Monthly, 1881-1944. Berlin. Carried as a supplement, Deutsche Mechaniker-Zeitung, 1898-1916, which then appeared separately, 1917-1920.

P728. Zeitschrift für Vermessungswesen. Monthly, 1876-. Stuttgart. (Mainly devoted to surveying).

P800. Mechanics; Horology; Metallurgy; Vacuum

P800. American machinist. Biweekly, 1877-. McGraw-Hill, New York.

P801. Annales françaises de chronométrie. Quarterly, 1930-. Centre nationale de la recherche scientifique, Paris. (Includes an abstract section).

2.9. Periodicals

P800. Mechanics; Horology; Metallurgy; Vacuum (Cont.)

P802. Bulletin annuel, Société Suisse de Chronométrie et du Laboratoire Suisse de Recherches Horlogères. Annual, 1950-.

P803. Feinwerktechnik. Monthly, 1887- (various titles); as Feinmechanik und Präzision; Zeitschrift für Feinwerktechnik, suspended in World War II; resumed publication in 1949 as Feinwerktechnik; published in Füssen, Bavaria.

P804. Horological journal. Monthly, 1858-. British Horological Institute, London.

P805. Journal of rational mechanics and analysis. Irregular, 1952-. Graduate Institute for Applied Mechanics, Indiana University, Bloomington. (Papers accepted in English, French, German or Italian).

P806. Journal suisse d'horlogerie. Monthly, 1876-. Geneva.

P807. Mémoires, Société des Ingénieurs Civils de France. Quarterly, 1848-. Paris.

P808. Microtecnic: International review for measuring and gaging techniques; Optics and precision mechanics. Bimonthly, 1947-. Scriptar, Ltd., Lausanne. (Also editions in French and German).

P809. Monatsschrift für Feinmechanik und Optik. Monthly, 1952-. Verlag "Die Wirtschaft", Berlin. East German Zone. Formerly Deutsche optische Wochenschrift (1948-1952).

P810. Prikladnaia matematika i mekhanika. Bimonthly, 1937-. Institute Mekhaniki, Akademiia Nauk, Moscow. (Applied mathematics and mechanics).

P811. Proceedings of the Institution of Mechanical Engineers. Monthly, 1847-. London. Cumulative author and subject index, 1847-1942, London, 1943, which also indexes the Journal, 1939-1942.

P812. Proceedings, Society for Experimental Stress Analysis. Semiannually, 1943-. Detroit.

P813. Progressus: engineering progress; progress of German engineering, mainly machines. Irregular, (6 issues in 1954), 1950-. Verlag Handelsblatt, Düsseldorf. (Editions also in French, Spanish, Italian, Portuguese and German).

2.9. Periodicals

P800. Mechanics; Horology; Metallurgy; Vacuum (Cont.)

P814. Reports of Research Institute for Applied Mechanics. Irregular, 1952-. Kyushu University, Fukuoka, Japan. (Merger of the Reports of the Research Institutes for Fluid Engineering (1942-1951) and for Elasticity Engineering (1943-1951). Reprints of the papers can be had from the Librarian of the Institute.

P815. Revue générale de mécanique. Monthly, 1933-. Paris. (Superseded part of Science et Industrie, 1916-1933).

P816. SFM, Bulletin, Société Française des Mécaniciens. Quarterly, 1951-. Paris.

P817. Stanki i instrument. Monthly, 1930-. Moscow. (Devoted largely to fine mechanics).

P818. Transactions, American Mining and Metallurgical Engineers. Annual, 1871-. New York.

P819. Transactions of the American Society of Mechanical Engineers. Monthly, 1879-. New York. Includes Journal of Applied Mechanics.

P820. Transactions of the American Society for Metals. Semiannual, 1928-. Cleveland. (Formerly American Society for Steel Treating).

P821. Vacuum: a review of developments in vacuum research and engineering. Quarterly, 1951-. W. Edwards & Co., London.

P822. Vide: Technique et applications. Bimonthly, 1946-. Société Française des Ingénieurs Techniciens de Vide, Paris. (Includes an abstract section).

P823. Werkstattstechnik und Maschinenbau: Zeitschrift für Fertigung im Maschinenbau, Apparatebau und Feinmechanik, Verein Deutscher Ingenieure (Arbeitsgemeinschaft deutscher Betriebsingenieure und Arbeitsgemeinschaft für fertigungstechnisches Messwesen). Monthly, VDI Verlag, Düsseldorf.

P824. Zeitschrift für angewandte Mathematik und Mechanik. Irregular, 1921-. Akademie-Verlag, Berlin. (East Zone.)

P825. Zeitschrift für Metallkunde. Monthly, 1911-. VDI-Verlag, Berlin. Includes an abstract section.

2.9. Periodicals

P900. Optics; Acoustics; Color; Microscopy; Photography;
Radiation, Nuclear, Atomic and Molecular

P900. *Acustica*; international journal of acoustics. Bimonthly, 1951-. Acoustics Group, Physical Society (London); Verband der deutschen physikalischen Gesellschaften; Groupement des Acousticiens de Langue Française. S. Hirzel Verlag, Zürich. (Papers in English, French or German).

P901. *Akustische Beihefte*. Irregular, 1951-. Supplements to Acustica; S. Hirzel Verlag, Zürich.

P902. *Akustische Zeitschrift*. About bimonthly, 1936-1944, Leipzig.

P903. *Applied spectroscopy*. Quarterly, 1947-. Society for Applied Spectroscopy, New York.

P904. *Astrophysical journal: International review of spectroscopy and astronomical physics*. Bimonthly, 1884-. Chicago.

P905. *British bulletin of spectroscopy*. Quarterly, 1951-. Institute of Physics and Society of Public Analysts and Other Analytical Chemists, London. (News notes, new literature notices, etc.).

P906. *Blätter für Untersuchungs- und Forschungsinstrumente*. Quarterly, 1927-. Rathenow, Germany. (House organ of Emil Busch A.-G.; optical instruments).

P907. *Deutsche optische Wochenschrift*. Biweekly, 1884-. Weimar. (Absorbed Central-Zeitung für Optik und Mechanik, 1934).

P908. *Highlights*. Bimonthly, 1946-. Eastman Kodak Co., Rochester, New York.

P909. *Illuminating engineering: including Transactions of the Illuminating Engineering Society*. Monthly, 1906-. New York.

P910. *Journal of the Acoustical Society of America*. Monthly, 1929-. American Institute of Physics, New York.

P911. *Journal of electronmicroscopy*. Triyearly, 1953. Society of Electronmicroscopy, Japan. Chiba City.

P912. *Journal of Nuclear Energy*. Quarterly, 1954-. Pergamon Press, London.

P913. *Journal of the Optical Society of America*. Monthly, 1917-. American Institute of Physics, New York. Cumulative index, 1917-1950, (Vol. 1-40), December 1954.

2.9. Periodicals

P900. Optics; Acoustics; Color; Microscopy; Photography; Radiation, Nuclear, Atomic and Molecular (Cont.)

P914. Journal, Royal Microscopical Society. Quarterly 1878-. London.

P915. Noise control. Bimonthly, January 1955-. Acoustical Society of America. (American Institute of Physics, New York).

P916. Nucleonics. Monthly, 1943-. McGraw-Hill, New York.

P917. Mikrokosmos: Zeitschrift für angewandte Mikroskopie, Mikrobiologie, Mikrochemie und Mikroskopie und klinische Chemie, der Kleinwelt und der praktischen Mikroskopie. Monthly, 1907-. Stuttgart.

P918. Optica Acta. European journal of optics. Irregular, 1954-. Société de la Revue d'Optique, Paris. Papers printed in either English, French or German.

P919. Optik: Zeitschrift für das gesamte Gebiet der wissenschaftlichen und angewandten Optik. Monthly, 1946-. Stuttgart.

P920. Optiknämndens handlingar (Reports from the Laboratory of Optics). Irregular, 1950-. Kungliga Tekniska Högskolan, Stockholm.

P921. Optische Rundschau und Photo-Optiker. Semimonthly, 1910-. Reichsinungsverband des Optiker- und Feinmechaniker-Handwerks, Weimar.

P922. Photogrammetric engineering. Quarterly, 1934-. American Society of Photogrammetry, Washington.

P923. Photographic engineering. Quarterly, 1950-. Society of Photographic Engineers, Washington.

P924. Photographic journal. Bimonthly, 1861-. B. Scientific and Technical Photography. Royal Photographic Society of Great Britain, London.

P925. Photo-Technik und -Wirtschaft. Monthly, 1950-. Verband der Deutschen Photographischen Industrie, Berlin. West Germany.

P926. Radiation research. Bimonthly, 1954-. Academic Press, Inc., New York.

P927. Radiography. Monthly, 1935-. Society of Radiographers, London. Issued with British Journal of Radiography until December 1953.

P928. Revue d'optique théorique et instrumentale. Monthly, 1922-. (Preceded by Revue générale d'optique et de mécanique de précision, 1912-1922). Institut d'optique théorique et appliquée, Paris.

2.9. Periodicals

P900. Optics; Acoustics; Color; Microscopy; Photography; Radiation, Nuclear, Atomic and Molecular (Cont.)

P929. *Science et industries photographiques*. Monthly, 1921-. Institute d'optique théorique et appliquée, Paris.

P930. *Spectrochimica acta*. Irregular, about 450 pages annually, 1944-. Pergamon Press, London. (Papers in English, German, French, or Italian).

P931. *Strahlentherapie*. Monthly, 1912-. Deutsche Röntgen-Gesellschaft und die Gesellschaft für Lichtforschung, Berlin.

P932. *Transactions of the American Microscopical Society*. Quarterly, 1878-. Ann Arbor, Michigan.

P933. *Zeitschrift für wissenschaftliche Mikroskopie und für mikroskopische Technik*. About quarterly, 1885-. Leipzig.

P934. *Zeitschrift für wissenschaftliche Photographie, Photophysik und Photochemie*. Irregular, 1906. Johann Ambrosius Barth Verlag, Leipzig.

P1000. Physics, fundamental and applied; Applied mathematics; Geophysics; Science

P1000. *American journal of physics*. Monthly, 1933-. American Association of Physics Teachers. American Institute of Physics, New York.

P1001. *Annalen der Physik*. Irregular (2 or 3 vols. per year), 1790- (various titles). Leipzig. Abstracts began in 1877 as Beiblätter zu den Annalen der Physik; merged in 1920 with *Physikalische Berichte*.

P1002. *Annales de géophysique*. Irregular, 1944-. Centre National de la Recherche Scientifique, Paris.

P1003. *Anales de la Real Sociedad Española de Fisica y Quimica*, Madrid. Series A - Fisica. Bimonthly, 1948-. Series B - Quimica. Monthly, 1948-. (Issued jointly from 1903 with some irregularity).

P1004. *Annales de physique*. Monthly, 1815-. (*Annales de chimie et de physique*, 1815-1914; separated into two journals in 1915). Paris.

P1005. *Annali di geofisica*. Quarterly, 1948-. Istituto Nazionale di Geofisica, Rome.

2.9. Periodicals

P1000. Physics, Fundamental and Applied;
Applied Mathematics; Geophysics; Science (Cont.)

P1006. Applied scientific research. Irregular, 1950-. Central National Council for Applied Scientific Research in the Netherlands, the Hague. Published in 2 sections: A. Mechanics, heat, chemical engineering, mathematical methods - B. Electrophysics, acoustics, optics, mathematical methods.

P1007. Arkiv för fysik. Monthly, 1949-. Stockholm.

P1008. Arkiv för geofysik. Irregular, 1950-. Stockholm.

P1009. Atti della Accademia Nazionale dei Lincei. Rendiconti. Monthly, 1892-. AN&L, Rome.

P1010. Beiblätter zu den Annalen der Physik. 1877-1919; merged in 1920 with Physikalische Berichte. Included abstracts.

P1011. Beiträge zur angewandten Geophysik (Gerlands). Irregular, 1930-. Leipzig. Supplements: Ergänzungshefte für angewandte Geophysik und Ergebnisse der kosmischen Physik.

P1012. Berichte der deutschen physikalischen Gesellschaft. Merged, 1920, into Zeitschrift der Physik.

P1013. British journal of applied physics. Monthly, 1950-. Institute of Physics, London.

P1014. Bulletin, Seismological Society of America. Quarterly, 1911-. Berkeley, California.

P1015. Canadian journal of physics (formerly Section A of Canadian Journal of Research). Monthly, 1935-. National Research Council of Canada, Ottawa.

P1016. Canadian journal of technology (formerly Section F, Canadian journal of research). Monthly, 1944-. National Research Council of Canada, Ottawa.

P1017. Comptes rendus hebdomadaires des séances de l'Academie des Sciences. Weekly, 1835-. Gauthier-Villars, Paris.

P1018. Geofisica pura e applicata. Irregular, 1943-. Instituto Geofisico Italiano, Milan. (Papers in Italian, English, German, French or Spanish).

2.9. Periodicals

Pl000. Physics, Fundamental and Applied;
Applied Mathematics; Geophysics; Science (Cont.)

Pl019. Geofysiske publikasjoner. Irregular, 1920-. Norske Videnskaps-Akademi, Oslo. Papers sometimes in English, French or German.

Pl020. Geophysics. Quarterly, 1936-. Society of Exploration Geophysicists, Tulsa.

Pl021. Il Nuovo Cimento. Monthly, 1855-. Societa Italiana di Fisica, Bologna.

Pl022. Journal de physique et le radium. Monthly, 1872-. Gauthier-Villars, Paris. (Cumulative index, 1872-1901).

Pl023. Journal of applied physics. Monthly, 1930-. American Institute of Physics, New York. (The title was Physics from 1930 to 1936). (Absorbed Journal of Rheology in 1933).

Pl024. Journal of chemical physics. Monthly, 1933-. American Institute of Physics, New York.

Pl025. Journal, Franklin Institute. Monthly, 1828-. Philadelphia.

Pl026. Journal of geophysical research. Quarterly, 1896-. Washington. Issued as Terrestrial magnetism and atmospheric electricity, 1896-1948.

Pl027. Journal, Indian Institute of Science. Quarterly, 1919-. Bangalore, India.

Pl028. Journal of mathematics and physics. Quarterly, 1921-. Massachusetts Institute of Technology, Cambridge, Mass.

Pl029. Journal, Physical Society of Japan. Bimonthly, 1946-. Tokyo.

Pl030. Journal of physics. Bimonthly, 1939-. Academy of Sciences of the USSR, Moscow. In English.

Pl031. Journal of research of the National Bureau of Standards. Monthly, 1928-. Washington.

Pl032. Journal of rheology. 1930-32. Merged with Physics in 1933. Became Journal of Applied Physics in 1937. American Institute of Physics, New York.

2.9. Periodicals

P1000. Physics, Fundamental and Applied;
Applied Mathematics; Geophysics; Science (Cont.)

P1033. Journal of scientific and industrial research. Monthly, 1942-.
Council of Scientific and Industrial Research, India, New Delhi.

P1034. Journal, Scientific Research Institute. Quarterly, 1948-. Tokyo.

P1035. Journal, Society for Industrial and Applied Mathematics. Quarterly,
1953-. Philadelphia.

P1036. Memoirs of the College of Science, University of Kyoto. Series A,
Physics and Chemistry. Kyoto.

P1037. Memoirs, Faculty of Technology, Tokyo Metropolitan University. Annual,
1951-. Tokyo.

P1038. Memoirs, Institute of Scientific and Industrial Research, Osaka
University. Annual, 1944-. Osaka.

P1039. Nature. Weekly, 1869-. Macmillan and Co., London.

P1040. Nederlands Tijdschrift voor Natuurkunde. Monthly, 1934-. Der
Nederlandse Natuurkundige Vereniging, Utrecht.

P1041. Philosophical magazine. Monthly, 1798-. Taylor and Francis, Ltd.,
London.

P1042. Philosophical transactions, Royal Society of London, Series A,
Mathematical and Physical Sciences. Irregular, 1665-. Royal Society,
London.

P1043. Physica. Monthly, 1935-. Physica Foundation, Amsterdam.

P1044. Physical review. Semimonthly, 1893-. American Physical Society.
American Institute of Physics, New York. (Has cumulative index,
1893-1920).

P1045. Physikalische Zeitschrift vereinigt mit dem Jahrbuch der Radio-
aktivität und Elektronik. Biweekly, 1901-. Leipzig.

P1046. Proceedings of the Physical Society. Monthly, 1874-. Physical
Society, London.

P1047. Proceedings of the Royal Society. Series A, Mathematical and Physical
Sciences. Biweekly, 1800-. Royal Society, London.

2.9. Periodicals

P1000. Physics, Fundamental and Applied;
Applied Mathematics; Geophysics; Science (Cont.)

P1048. Reviews of Modern Physics. Quarterly, 1923-. American Physical Society. American Institute of Physics, New York.

P1049. Science. Weekly, 1883-. American Association for the Advancement of Science. Washington.

P1050. Technology reports, Tohoku University. Irregular, Sendai, Japan.

P1051. Tecnica italiana: rivista d'ingegneria e scienze. Monthly, 1946-. Trieste.

P1052. Transactions, American Geophysical Union. Bimonthly, 1920-. National Research Council, Washington.

P1053. Trudy Geofizicheskogo Instituta. 1948-. Akademia Nauk SSSR, Moscow-Leningrad. Geophysics.

P1054. Zeitschrift für angewandte Mathematik und Physik. Bimonthly, 1950-. Zurich.

P1055. Zeitschrift für angewandte Physik. Monthly, 1949-. Springer-Verlag, Berlin.

P1056. Zeitschrift für Astrophysik. Irregular, 1930-. Deutsche Physikalische Gesellschaft, Berlin.

P1057. Zeitschrift für Naturforschung. Two editions: A. Astrophysik, Physik und physikalische Chemie. B. Chemie, Biochemie, Biophysik, Biologie, und verwandte Gebiete. Both monthly, 1946-. Verlag der ZFN, Tübingen.

P1058. Zeitschrift für Physik. Irregular, 1920-. Deutsche Physikalische Gesellschaft, Berlin.

P1059. Zeitschrift für technische Physik. Monthly, 1920-. Leipzig.

P1060. Zhurnal geofiziki. Irregular, 1930-. Moscow. (Supersedes Zhurnal geophysiki i meteorologie, 1924-1929, Moscow).

P1061. Zhurnal tehnicheskoi fiziki. Monthly, 1931-. Moscow.

2.9. Periodicals

P1100. Standards; Metrology; Testing, General

P1100. *Amtsblatt der physikalisch-Technischen Bundesanstalt.* Quarterly. Braunschweig. Continuation of PTR *Amtsblatt*.

P1101. *Amtsblatt der Physikalisch-Technischen Reichsanstalt, Charlottenburg.* Irregular, 1886-. Berlin.

P1102. Annual report: National Bureau of Standards, 1927-. Superintendent of Documents, Washington. (Vols. 1-8, 1927-1934, were issued under the title Standards Yearbook).

P1103. *ASTM bulletin.* Bimonthly, 1921-. American Society for Testing Materials, Philadelphia.

P1104. *ASTM proceedings.* Annual, 1899-. American Society for Testing Materials, Philadelphia.

P1105. *Bekentgrelser fra justervæsenet.* Irregular (No. 194 in March 1952). Justervæsenet, Copenhagen. (Illustrated descriptions of instruments submitted for calibration; each issue 2 to 4 pages).

P1106. *Berichte der eidgenössischen Materialprüfungs- und Versuchsanstalt für Industrie, Bauwesen und Gewerbe.* Irregular. (No. 179, 1951). Zurich.

P1107. *Book of ASTM standards.* Triennial. American Society for Testing Materials, Philadelphia.

P1108. *Buletinul de standardizare.* Monthly, 1949-. Comisia de standardizare, Bucharest. (Original papers, and lists of Roumanian standards).

P1109. *Bulletin mensuel de la normalisation française.* Monthly, 1951-. Association Française de Normalisation, Paris.

P1110. *Bulletin of research.* Irregular, 1937-. Underwriters' Laboratories, Chicago.

P1111. *Bulletin, International Association of Testing and Research Laboratories for Materials and Structures (RILEM).* Irregular, 1951-. Paris. English edition.

P1112. *Courrier de normalisation.* Bimonthly, 1936-. Association Française de Normalisation, Paris.

P1113. *DIN-mitteilungen (Deutsche Industrie-Normen).* Monthly, 1946-. Deutscher Normen-Ausschuss, Berlin.

2.9. Periodicals

P1100. Standards; Metrology; Testing, General (Cont.)

P1114. Eichschrift des Bundesamtes für Eich und Vermessungswesen. Irregular. Illustrated descriptions of instruments submitted for calibration; each issue 1 or 2 pages. Österreichische Staatsdruckerei, Vienna.

P1115. Engineering inspection. Quarterly, 1935-. Institution of Engineering Inspection, London.

P1116. Industrial radiography and nondestructive testing. Quarterly, 1942-. American Industrial Radium and X-Ray Society, Chicago.

P1117. Informaciones IRAM. Irregular, 1936-. Instituto Argentino de Racionalización de Materiales, Buenos Aires.

P1118. ISI bulletin. Quarterly, 1949-. Indian Standards Institution, Delhi.

P1119. ISO journal. Irregular (No. 17, July 1952). Secretariat, International Organization for Standardization, Geneva. (Each issue lists meetings and subcommittees, superseding all previous issues).

P1120. Kungl. Mynt- och justeringsverket cirkular. Irregular (Series I, II and III, 1935-.) Stockholm.

P1121. Laboratories: revue bilingue de la technique et du matériel français: recherche, essai, contrôle, enseignement. Quarterly, 1951-. Published by Ingenieurs et Techniciens, Paris. (Papers in French and English).

P1122. Materialenkennis. Monthly, 1934-. Suspended, 1941-1946; published as supplement to De Ingenieur. Bond voor Materialenkennis, The Hague.

P1123. Mitteilungen der deutschen Materialprüfungsanstalten. Irregular, 1925-. Berlin-Dahlem.

P1124. Nondestructive testing. Bimonthly, 1950-. Society for Nondestructive Testing, Evanston, Illinois. (Formerly Industrial Radiography and Nondestructive Testing).

P1125. Normalisatie. Bimonthly, 1925-. Hoofdcommissie voor de Normalisatie in Nederland, Delft.

P1126. Notes on applied science, National Physical Laboratory. Irregular, 1951-. H.M. Stationery Office, London. Eight issues (1954) including Gauging and measuring screw threads, Balances and weights, and Volumetric glassware.

2.9. Periodicals

P1100. Standards; Metrology; Testing, General (Cont.)

P1127. Revista chilena de racionalizacion. Irregular, 1948-. Instituto Nacional de Investigaciones Tecnologicas y Normalizacion (INDITECNOR), Santiago, Chile.

P1128. Revue de métrologie pratique et légale: poids et mesures. Monthly, 1923-. Paris. (Includes Bulletin de poids et mesures, illustrated descriptions of instruments submitted for calibration.

P1129. Sbornik trudov vsesoyuznyi nauchno-issledovatel'skogo Instituta Metrologii (VNIIM). Irregular, 1941-. Leningrad. Preceded by Trudy VNIIM, 1939-1940; before 1939 appeared under the title Travaux de l'institut de metrologie (et de standardisation) de l'USSR, irregular, 31 issues up to 1937.

P1130. Scale journal. Monthly, 1914-. National Scale Men's Association, and National Conference on Weights and Measures. Scale Journal Publishing Co., Chicago.

P1131. Schweizer Archiv für angewandte Wissenschaft und Technik; Zeitschrift für das Gesamtgebiet der Werkstoffkunde und Werkstoffprüfung. Monthly, 1935-. Schweizerischer Verband für die Materialprüfung der Technik, Solothurn, Switzerland.

P1132. Schweizer Verband für die Materialprüfungen der Technik; Berichte. Irregular, 1925. Zurich.

P1133. South African Standards Bulletin. Monthly, 1945-. Council of the Bureau of Standards, Pretoria.

P1134. Standardizacija. Monthly, 1950-. Savezne Komisije za Standardizaciju, Belgrade.

P1135. Standards. Monthly, 1930-. American Standards Association, New York. (Formerly Standardization).

P1136. Standards review. Irregular, 1944-. British Standards Institution, London.

P1137. Statensprovingsanstalt (Stockholm)
Cirkular, Irregular, 1922-
Meddelande, " 1921-
Berättelse " 1920-.
(Some of the bulletins are in English; when in Swedish they commonly have summaries in English).

2.9. Periodicals

P1100. Standards; Metrology; Testing, General (Cont.)

P1138. Technical news bulletin. Monthly, 1917-. National Bureau of Standards, Washington. (Lists current publications of the Bureau).

P1139. Technische Ueberwachung. Semimonthly, 1940-1943. Reichshauptstelle für die technische Ueberwachung, Berlin. Preceded by Zeitschrift für die technische Ueberwachung, 1897-1939.

P1140. Weights and measures act 1904: notice of examination of pattern. Irregular. Standards Dept., Board of Trade, London. (Illustrated descriptions of instruments submitted for calibration; each issue 2-4 pp.).

P1141. Wissenschaftliche Abhandlungen der deutschen Materialprüfungsanstalten. Irregular, 1925-. Berlin. Preceded by 38 separates (Sonderhefte) in a series under the title Mitteilungen der deutschen Materialprüfungsanstalten (1928-1937); dates back, with other title changes, to 1883.

P1142. Wissenschaftliche Abhandlungen des deutschen Amtes für Mass und Gewicht. Annual, v1, 1949; v2, 1950; v3, 1953. Otto Teubert, Leipzig. (Reprints of papers by staff members).

P1143. Wissenschaftliche Abhandlungen der Physikalisch-Technischen Bundesanstalt. Annual, 1949-. Braunschweig.

P1144. Wissenschaftliche Abhandlungen der physikalisch-technischen Reichsanstalt. Irregular, 1917-. Published by F. Ullmann, Zwickau. (Reprints of papers by staff members, mostly from German periodicals).

P1145. Zentralblatt für Werkstoffforschung. Irregular, 1941-. Springer Verlag, Berlin.

P1146. Zwanglose Mitteilungen des Deutschen und des Österreichischen Verbandes für die Materialprüfungen der Technik. Irregular, 1924-. Berlin and Vienna.

2.10. (S1) Specification Lists and Handbooks

S1. American Society of Mechanical Engineers, Power test codes. New York. 16 codes and 1 appendix, 1930-1949. Supplements on Instruments and Apparatus in 21 parts, 1931 to date (revisions and additions still in progress).

2.10. (S1) Specification Lists and Handbooks (Cont.)

S2. American Society for Metals, Materials specification handbook. Philadelphia Chapter, Philadelphia, 1941.

S3. American Standards Association, American Standard code for electricity meters. Edison Electric Institute, New York; Ed. 4, 1941. 128 pp.

S4. Paul A. Cooley, Ann E. Rapuzzi and A. S. McAllister, National directory of commodity specifications: classified and alphabetical lists and brief descriptions of specifications of national recognition. Division of Codes and Specifications, National Bureau of Standards, Miscellaneous Publication M178, Washington, 1945. 1311 pp.
(Names and addresses of standardizing agencies, other than federal, pp. 1162-1177; U. S. Government, pp. 1177-1184).
Paul A. Cooley and G. N. Thompson, Supplement, 1947. 322 pp.

S5. DIN Taschenbuch: 4. Werkstoffnormen: Stahl, Eisen, Metalle; technische Lieferbedingungen, Eigenschaften, Abmessungen. Beuth-Vertrieb, Berlin; Ed. 16, 1942. 219 pp.

S6. Munitions Board, Index of military specifications and standards. Semi-annual, with cumulative monthly supplements. Washington, April, 1951-.
Vol. 1, Military Index
Vol. 2, Army
Vol. 3, Navy
Vol. 4, Air Force.

S7. Normblatt-Verzeichnis. Irregular. Deutscher Normenausschuss; Beuth-Vertrieb, Berlin.

S8. Society of Automotive Engineers, Aeronautical material specifications. New York, 1940.

S9. Standards Association of Australia, Handbook of publications. Sydney, 1948. 77 pp.

S10. SAA bulletin. Quarterly, 1938-. Standards Association of Australia, Sydney.

S11. Standards world. Quarterly, 1948-. Washington.

3. Author Index

The author index includes the following:

- a) Authors of all books and articles are listed as ascribed in the entries under Sections 2.2 to 2.8, inclusive, and 2.10.
- b) If the entry is a publication of a society without a specific author, particularly abstract journals, indexes to publications and guides to literature, the entry is listed under the name of the society. If the entry is a technical journal, listing it under the name of the issuing society is with some exceptions restricted to American and English journals. Other journals can ordinarily be located by looking up the country of origin as indicated in c) below, or better, the subject in the subject index.
- c) If the entry is an index or guide to technical literature, including abstract journals, bibliographies, specifications or is a technical report without named author, or a periodical issued by a governmental unit, it is listed under the country of origin, and in some cases the particular governmental unit. Periodicals not issued by a governmental organization are listed under the country of origin, except those originating in the United States, England, France and Germany. The commercially issued periodicals of the latter four countries are unlisted.
- d) All references to governmental units of the United States are listed under the heading "United States".
- e) All publications originating in Russia are listed under "USSR". All English translations of Russian abstracts, indexes and guides are also so listed.
- f) Patent abstracts, guides, and indexes are listed under "Patent Office" with the country of origin as a subheading.

3. Author Index

Ackerl 3300
Acoust. Soc. Am. P910
Adams 6001
Addison 2600
Ahrend 1000 1001
Ahrens 2100
AIEM 6000
Air Univ. See U.S.
Alexander, C. G200
Alexander, W. 2300
Amdur Pl
Am. Assoc. Adv. Sci. P1049
Am. Assoc. Phys. Teach. P1000
Am. Ceramic Soc. A503
Am. Chem. Soc. A407 A410 D8 G109 P301
P311 P313 P323 P506
Am. Gas Assoc. 2601 2602
Am. Geoph. Un. P1052
Am. Inst. Elect. Eng. B219 1300 P409
P413 P431
Am. Inst. Min. & Metall. Eng. 4001
P500 P818
Am. Inst. Physics 4000 P721 P1023
P1024 P1032 P1044
P1048
Am. Lib. Assoc. B109
Am. Math. Soc. A414
Am. Med. Assoc. A104
Am. Meteorol. Soc. A415 P110
Am. Phys. Soc. P1044 P1048
Am. Soc. Heat. Ventil. Eng. 5001
Am. Soc. Mech. Eng. A204 B200 B201
1002 1301 2601
2603 3606 3700
D101 I200 I301
P819 S1
Am. Soc. Metals 5000 P820 S2
Am. Soc. Photo. P923
Am. Soc. Refr. Eng. A511 P615
Am. Soc. Test. Mtls. 2301 2500 6100
I302 P1103 P1104
P1107
Am. Soc. X-Rays, Elect. Diff. B202
Am. Stds. Assoc. P1135 S3
Ancell B215
Anderson 3315
Andrews 3714
Anhorn 5002
Ansley 4002
Appelt 2101
Appleton 1017
Argentine P1117
Aschen 3800
Ask 3314
ASLIB I304 I305
Assoc. Fr. Norm. 2604
Assoc. Ing. SEL I303
Astbury 2302
ASTIA See U.S.
Atomic Energy Com. See U.S.
Australia Pl11
Australia, Stds. Assoc. S9 S10
Australian Soc. Inst. Tech. I201
P703
Austria P315 P423 P504 P1114 P1147
Austria, RATM A301

Bagley G201
Baker 4003
Balt. Spec. Lib. Assoc. B110
Banner 2400
Barber, A. W. 2434
Barber, T. W. 3000
Barnard 2900
Barnes 2102
Barr 5002
Barrett 6106
Barrows 3500
Batcher 1003
Bates, F. J. 2103
Bates, R. G. 7005
Bean 2605
Beck 2401
Beckett 5057
Behar 2800 2801
Beito 2003
Belgium I303
Bell Labs. 3801
Benedict M. 2104

3. Author Index (Cont.)

Benedict W. S. 5057
Bennett 3400
Benz 2402
Beraneck 3900 3901
Berg 2403
Bergmann 3902
Berl 2105
Berolsheimer B122
Bestermann B100
Birks 3701
Blackburn 3823-17
Blake 2106
Bleuler 3702
Blom 5003
Boll 3802
Bolt 7040
Boltz 2501
Bond 3803
Bongards 3200
Boone 2404
Booth 2200
Borden 2303
Bosworth 2107
Bouasse 2502
Bouche 1041
Boulding 3819
Boutry 3501
Bowden 2201
Bowerman G202
Boyd 1401
Bozorth 5004
Braddick 5005
Bradke 3201
Brancard 3804
Bratt 3805
Bray G110
Breithart 3806
Bretschneider D100
Bridgman 2503 3600
Britten, F. J. 4100
Britten, F. W. 4101
British
 Cast Iron R.A. A502
 Ceramic R.A. A501
 Cotton Ind. R.A. A514

British (continued)
 Elect. & Allied Ind. R.A. A209
 Horol. Inst. P804
 Inst. Radio Engr. P428
 Iron & Steel R.A. 1100
 Optical Instr. Mfr. D104
 Rheologists Club 2606
 Scientific Inst. Mfr. D107
 Scientific Insts. R.A. A300 P720
 Stds. Inst. I302 2607 4004 P1136
Broglie, de 2405
Broida 4005
Brombacher B220 3212 3603
Brown, C. A. 2108
Brown, E. B. 3502
Brown, G. S. 1004
Brown, J. 3503
Brown, R. G. 1035
Brownlee 2504
Brüche 2406
Bruns 7000
Bubert 2304
Buckingham 7020
Buchanan 7050
Burdon 7051
Burke, A. J. G200
Burke, J. E. 3109
Burton 3401

Cady, W. G. 5006
Cady, William 3823-26
Calif. Nat. Gas. Assoc. 2609
Calot G203
Campbell, C. N. 4006
Campbell, D. P. 1004
Canada D104 G402 P4 P1015 P1016
Canadian Def. Res. Bd. I402
Candler 3504
Capellen 2210 2211
Carlin 3903
Carmichael 5007
Carnegie Lib. Pitt. B115
Cartwright 5044
Castetter 5060

3. Author Index (Cont.)

Chalmers 3202
Chamot 3402
Chance 3823-19-20 4102
Chapanis 5059
Chaplin 1005
Chestnut 1006
Chile Pl127
Chmutov 2109
Clark, G. L. 3703
Clark, H. T. 6106
Clauser 3704
Clavel 3301
Clifford 2407
Coast & Geod. Survey 3302
Cobb B106
Cockrell 1007
Cole 5008
Coleman 14
Collins 3823-6 3823
Colloques Int. 2202
Colombani 1200
Compr. Air & Gas Inst. 7052
Computation Lab, Harvard 1112
Conrad 3203
Considine 3303
Conway 2610
Cooley 14
Cooper 2802
Corcoran 2320
Cork 4030
Cornett 5050
Corps of Engineers See U.S.
Corruccini 4026
Coryell 3705
Cosslett B203 3403
Cowdrey, I. H. 6001
Cowdry, E. V. 3404
Cox 3508
Coyne Elect. School 6101
Craggs 3706
Crane G100
Crank 2203
Craitz 3327
Croft 4007
Cronshaw 2803
Crow 1008
Curran 3706
Curtis 2305
Curtiss 3707
Czechoslovakia Pl420

Dalla Valle 3304
Dalton G101
Darrow B107
Davenport 3204
Davidson 3314
Davis 6002
Deerhake 1009
Deimel 3002
DeJuhass 3601
Delmar Publ. Co. 3003 3602
Den Hartog 4300
Denis-Papin 3305
Denmark Pl105
Dept. Commerce See U.S.
Deut. Akad. Wiss. A221 A458
Deut. Amtes, Mass, Gwt. Pl142
Deut. Gesell. Tech. Physik A418
Dicke 3823-8
Dickson 2806
Diefenbach 3807
Diehl 2611 2612
Dijke 6102
DIN 1303 S5 S7 Pl113
Dix 2700
Dixon 6106
Djurberg 3808
Dobrin 5009
Dole 2110
Domanskii 1201
Dorsey 5010
Drake 2001
Draper 2804
Drozdov 5011
Drysdale 2306
Dudnikow 1202
Dumont Lab. 5021
Dushman 4200
Dutton 2002

3. Author Index (Cont.)

Eastman 2408
Eastman Kodak 3708 P908
Eberhard 3505
Eckman 1010 2805
Edgcumbe 2307
Edison Elect. Inst. 2308
Eiseman 3327
Eisenhart 2505
Elbe, von 4018
Elliott 2806
Elmore 2409
Elsasser 3205
Engel 1101
Engg. Soc. A211
Engr. Counc. B117
England, See Great Brit., British
Eschelbach 6111
Eshbach 5012
Esnault-Pelterie 2506
Evans 1011

Fairchild 4009
Faltin 4008
Farkas 2111
Farrington 1012
Felgentraeger 7030
Feller 1013
Ferguson 3603
Fergusson 3206
Ferns 2309
Ferry 3004
Fett 1014
FIAT 2709 3544
Fink, D. G. 3809
Fink, L. 3506
Finsterwalder 3306
Fischer 3405
Fisher 2507 2508
Fleming 2310
Fleury 3507
Fluegge-Lotz 1015
Foote 4009
Forsythe 4010 5013
France A402 A406 A422 A513 B102 2202
2604 D3 D109 I306 I320 P2 P3

France (Cont.) P120 P801 P1002
P1017
Francis 3709
Franklin B204
Franklin Inst. P1025
Freeze B205
Freshbach 5031
Fritsch 2410
Froman 3711
Frost 2314
Fuhrman 2112

Gabor 3406
Gage 3407
Gaggia 6003
Garner 5059
Garrett 4011
Gaydon 4012
Geffner 2515
Geiger 5014
Geil 5015
General Electric Co. 2311 6103 P606
Gerassimow 1202
Germany A217 A220 A221 A223 A224
A301 A408 A418 A420 A426
A427 B108 B111 B217 2709
D2 D5 D100 D123 I314 I315
I322 I324 P5 P8 S5 S7
Gerzonowicz 2411
Gess 2613
Geyger 2412
Ghilardi 1203
Gibbons 3005
Gibbs 2113
Gill 2218
Gillespie 3710
Glasgow 3823-5
Glaser 3408
Glass 3604
Glasscock 7006
Glasser 5016
Glazebrook 5017
Glocker 6004
Gmelin 1304

3. Author Index (Cont.)

Goldring 2312
Goldsmith 3702
Gordy 3409
Gore 2102
Gram 6005
Grammel 3006
Grave 2315
Graves 3711
Gray, D. E. G110
Gray, T. S. 2413
Great Britain A208 A209 A210 A212
A214 A219 A222 A300
A404 A409 A417 A421
A424 A425 A501 A502
A504 A508 A510 A514
B116 B120 B212 1105
1302 2607 6008 6107
D6 D7 D103 D113 D116
D122 I304 I305 I318
I323 P9 P10 P11 P12
P115

Green 2606
Greenwood 1016 2414 3823-21

Gregg 2314
Gregory, C. H. 1017
Gregory, W. I113
Griffiths, E. 4013
Griffiths, R. 4014
Grings 7053
Grodzinski 3007
Grover 2615
Gruber 6105
Gruenberger 2204 2205
Gutenberg 2701
Guthrie 4201

Habell 3509
Hague 2315 2316
Hall, A. C. 1009 1018
Hall, C. E. 3410
Hall, J. S. 3823-2
Hamburg 6105
Hamilton 3823-7
Hammond 2314

Hankam B204
Harley 2114
Harms 5051
Harrington 2615
Harris 2317
Harrison, R. T. 4009
Harrison, V. G. W. 3509
Hartree 2206
Harvard Univ. 1019
Harwood 1020
Haskell I101
Haswell 4103
Hatschek 2415
Hawkins I102
Hayden 2902
Hayward 5044
Heckelman 3307
Heiland 2702
Heinz, Ewald 2901
Heisenberg 3712
Hemsley 3510
Henley B206
Henning 4015 5024
Herman 1021
Herning 2616
Hetényi 3100
Heyl B109
Heyrovsky 2115 2116
Hidner 3308 5018
Hillier 3416
Hilsenrath 5057
Hintenberger 2901
von Hippel 5019 5020
Hodgman 5021
Hofe, von 3511
Hoffman 2117
Hoffmann 4016
Hohenhoff, von B110
Holdam 1016 2414 3823-21
Holland, see Netherlands
Hollander B207
Holloway I405
Holmstrom G204
Holsizer 3823-20 4102
Horner 3823-7

3. Author Index (Cont.)

Horton 3010
Hosmer 3309
Hudson 5022
Huetter 7040
Hughes 3713
Hume 3310
Hund 2416 3810
Hunt 3904
Hunter 3811

Illum. Engg. Soc. P909
India Ph19 P1027 P1033 P1118
Ingraham 2902
Inst. Aero. Sci. A201 B112 M114
P101 P102 P107
Inst. Gas Tech A505
Inst. Metals A508
Inst. Phys. London 3101 7031 P714
P905 P1013
Inst. Radio Engr. A302 3827 P213
P433 P442
Inst. Textile Tech. A515
Instn. Civil Engr. A210
Instn. Elect. Engr. A208 A417 P432
Instn. Eng. Austr. I309
Instn. Mech. Engr. I310 P811
Instr. Soc. Amer. 3603 P712 P713
Instr. Publ. Co. I203 P711
Int. Opt. Com. 3512
Ireland I103 I104
Irwin, G. E. 2003
Irwin, R. D. 2613
Isaac I405
Isaacs 7032
Isenburger 3720
Italy A206 I319 P209 P403 P424 P1005
P1009 P1018 P1021 P1051
Itskhoki 3182

Jackson, R. M. 2623
Jackson, W. 3825
Jacobs 3513
Jaekel 4202

Jakosky 2703
James, H. D. 1022
James, H. M. 1023 3823-25
James, W. J. 3017
Japan A215 A413 P211 P429 P611 P814
P911 P1029 P1034 P1036 P1037
P1038 P1050
Jellinghous 2318
Jensen 1204
Jnanananda 4203
John 3008
Johnson, B. K. 3413
Johnson, J. 3009
Johnson, R. R. 2623
Jolley 2306
Jones, E. B. 2807
Jones, F. D. 3010 5033
Jones, G. A. 3514
Jones, R. M. 3411
Jones, R. W. 1024
Jordanoff 2004
Joyce 2704
Judd 3515
Judge 3311

Karelitz 3823-26
Karman, von 5030
Karo 2319
Kasan 2207
Keator 3019
Keen 3813
Kehl 3102
Keitz 3516
Kempthorne 7015
Kent 5007 5041
Kent, F. L. B118
Kerchner 2320
Kerr 3823-13
King 3814
Klein 2417
Kleinschmidt 3207
Klemperer 3412
Klingler 3011
Kloeffler 1025

3. Author Index (Cont.)

Knipp 3823-7
Knoll 2207
Knowlton 5023
Koch 3103
Kohl 3401
Kohlrausch 5024
Kohlschütter 3505
Kolthoff 2118 2119
Koppelman 3313
Korn 2208
Kortüm 2120
Körwien 3012
Krabbe 2418
Kramar 2419
Kraus 3822
Kret 5025
Kroenert 1102
Krugman 2420
Kuentsel I³11 I³12
Kunze 2321
Kuske 3104

Ladenburg 4017
Laitinen 2118
Landau 3105
Lang 5026
Langbein 2322
Langford-Smith 2421
Laporte 2121
Lapp 3714
Larsen 2623
Lashof B220
Lauer 2026
Lauritsen 4026
Laws 2323
Lawson 3823-24
Lea 3106
League Nations B111
Lebacqz 3823-5
Ledgett 1305
Leeds & Northrup B208
Lees 2804
Leet 2705
Lehman 1200

Leinweber 3313
Lempfert 3111
Lennarts 3815 3816
Leonhard 1103
Lepretre 3817
Lesnick 1026
Lesokhin 2005
Lewer 2422
Lewis, B. 4017 4018
Lewis, I. A. D. 4104
Lewton G205
Library of Congr. B105 B114 G405
I105-109 incl.
I406

Lichy 6106
Liddel 2102
Liddell 2617
Liese 3201
Limann 2423 3818
Lincoln 1027 2324
Lindemann 6006
Lindorf 4019
Linford 2618
Lingane 2119
Lion 2209
Lissner 7025
List 5027
Little B209
Loeb 1200
Loginov 5054
Lomax 2706
Lonberger 4026
Lossievskii 1205
Lowe 3517
Lowes 1017
Ludendorff 3505
Lukasiewicz 3605
Lyman 5000
Lyon 2006
Lysaght 3107

Mac Coll 1028
Macelwane 2707
Mac Lean 2619

3. Author Index (Cont.)

Macmillan 1104
Mac Nichol 3823-20 4102
Mac Rae 1016 2414 3823-21
Malone 3208
Mann 2509
Manning 5050
Marcuvitz 3823-10
Markle 1022
Marks 5028
Markur 5055
Maroney 2510
Martin, L. C. 3413
Martin, Lou. C. 3518
Martin, T. L. 7010
Martin, W. 3604
Martinelli 3519
Marton B210
Mason, C. W. 3402
Mason, H. L. 1109 1306
Mason, W. P. 3905 5029
Mass. Inst. Tech. P1028; CME 3520
Mastandrea 2325
Masterson 1026
Mayer 1006
McAllister 54
McCurdy 3314
McIlwain 5034
McKay 2804
McKenzie 3823-4
McKeown 7054
McNeil 3315
Meggers B211
Mellon 2122 G102
Melville 2111
Merrill 3017
Merrington 3013
Meyer z. Capellen 2210 2211
Michelon 6007
Michels 2326
Middleton 3209
Mikulaschek D2
Milham 4105
Miller, R. E. 1029
Milligan 3709
Ministry of Supply A214 B212 1105
6009 6107

Mises, von 5030
Moeller, F. 2425
Moench 4204
Mollard 6009
Möller, W. 2424
Monk 3521
Montgomery 3823-8-11-14
Morgan, C. T. 5059
Morgan, R. H. 7055
Morgis 3204
Morse 3906 5031
Morton 3416
Moulic 1003
Mueller, E. F. 4023
Mueller, R. H. 2123
Muncherryan 3715
Munitions Bd. See U.S.
Murray, F. J. 2212
Murray, H. D. 3522
Myklestad 4301

Nachtrieb 2124
Naslin 1206
Nasse 1207
Nat. Adv. Com. Aero. See U.S.
Nat. Bur. Stds. See U.S.
Nat. Counc. Teachers Math. 3317
Nat. Inst. Health See U.S.
Nat. Phys. Lab. 3318 P445 P1126
Nat. Res. Council A213 B106 B107
B122 2310 2708
3109 3319 3320
3535

Nat. Res. Counc. Canada P1015 P1016
Nauman 3523
Nederland, I.B.R. I313
Neher 5044
Nentwig 2427
Netherlands 6102 I313 P612 P613
P1006 P1040 P1043 P1122
P1125

Newall 5032
Nichols 1023 3823-25
Nikitin 1208

3. Author Index (Cont.)

Nixon 1030
 Norway P1019
 Oberg 5033
 Ockenden 2307
 O'Diselin 7032
 Oesar 6108
 Office Mil. Govt. Germ. See U.S.
 Office Naval Research See U.S.
 Office Tech. Serv. See U. S.
 Ohio State Univ. G103
 Oldenbourg 1109 1110
 Olsen 6010
 Oppelt 1106 1107 1108
 Opt. Soc. Am. P913 P915
 Ordung 3822
 Ower 2620

 Palfrey D4
 Palm 2327 2328 2329
 Palme 2414
 Paris 4105
 Parke G104
 Patent Office
 British P9 P10 P11 P12
 Canadian P4
 French P2 P3 P719
 Germany P5 P8
 U. S. A207 P13 P14
 Patterson, A. M. G100
 Patterson, G. N. 3604
 Patterson, G. W. 2214
 Pease 4017
 Peffer 3308
 Peintinger 2330
 Peiser 7035
 Pelegrin 1209
 Pellaton 4106
 Pender 5034
 Penrose 3819
 Perazich 1031
 Perry, C. C. 7025
 Perry, J. H. 5035

3. Author Index (Cont.)

Reilly 2125
Reiner 3210
Res. & Dev. Bd. See U.S.
Reynor 2431
Rhinshart 3718
Rhodes 2809
Ribaud 4020 4021
Richards 2621
Richardson, E. G. 3908
Richardson, K. I. T. 7021
Richter, C. F. 2701
Richter, H. 2432
Richter, O. 3016
Ridenour 3823 5040
Rider 2433 2434
RILEM P1111
Rips G102
Roberjot 2333
Roberts, A. 3823-3
Roberts, A. B. G105 G206
Roberts, H. C. 2810 G207
Rodden 2126
Roeser 4022 4023
Romeis 3414
Rooksby 7035
Rosenberg 1031
Rossi 3719
Rosalyn 2334
Roters 2335
Roth 2329
Rothe 2710
Roumania A405 P1108
Royal Aero. Soc. P111
Royal Photo. Soc. A510 P924
Royal Soc. I317 P1042 P1047
Royds 4024
Ruhemann 4025
Ruhle 3415
Ruiter 2435
Russia, See USSR
Ruthardt 2128
Ryder 4003
Sadtler & Son 3536
St. John 3720
Salisbury 5041
Salle 6015
Salvadori 5042
Samans 5043
Sandretto 2008
Sands 2409
Sartorius 1109 1110
Satterly 2512
Saunders 7000
Saunderson 6106
Sawyer 2127
Scheel 5014
Schimmel 1031
Schintlmeister 2436
Schlesinger 3323 3324
Schmidt 3325
Schmiedel 6110
Schoenert 6111
Schuettler B206
Schwamb 3017
Schwarz 5042
Schweitzer 2437
Schwerdtfeger 2336
Schwidefsky 3326
Scribner B211
Scroggie 3824
Seely 7011
Segre 3721
Segsworth 6106
Seith 2128
Selwood 2129
Serralbach G106
Servia P1134
Seybolt 3109
Shannon 3826
Shaw I318
Shea, R. F. 2438
Shea, T. E. 3825
Shenker 4026
Shillaber 3526
Shkurin 2337
Shoop 3018
Siebel 6011

3. Author Index (Cont.)

Siegbahn 3722
Silsbee 2338
Silver 3823-12
Skalnik 3822
Skinkle 6112
Smallwood 3019
Smith, A. W. 2339
Smith, E. S. 1033
Smith, F. A. 3327
Smith, W. A. B118
Smith, W. V. 3409
Smithsonian Inst. 5013 5027
Smullin 3823-14
Snell 2130
Societa GMIG I320
Société Fr. Phys. I320
Soc. Appl. Spectr. P903
Soc. Auto. Eng. P616 S8
Soc. Expl. Geophy. I321 P1020
Soc. Exp. Stress Anal. P812
Sohon 2707
Soller 3823-22
Solodonikoff 1210
Solv'ev 1211
Sommer 2439
Soroka 2216
Sossman 4027
Sotskov 1212
Souder 5018
Soule G107
South Africa P1133
South Kens. Mus. B116
Southeast Res. Inst. G108
Spain G103 P1003
Spangenberg 2440
Spec. Lib. Assoc. B104 B119
Spencer, D. A. 3522
Spencer, J. 6113
Spilhaus 3209
Spink 2622
Stackelberg 2131
Stds. Assoc. Australia S9 S10
Starr 3823-22
Staub 3719
Stearns 2623
Stekol'nikov 2441
Stenger B215
Stevens 5058
Steward 2009
Stifler 2217
Stout 2340
Stratton I412
Strecke 1112
Strong 5044
Stublings 6114
Stuhlman 5045
Stutterheim 5046
Sugarman 3705
Sully 5047
Svenska Tek. 2811
Svoboda 3823-27
Sweden P920 P1007 P1008 P1120
P1137
Switzerland I110 I307 P407 P434
P722 P802 P806 P808
P900 P1054 P1106 P1119
P1131 P1132
Tagg 2306
Tagliabue Co. 6115
Takahashi 1213
Taplin 1000
Taylor 3723
Terman 2442 5048
Texas A & M 1034
Thaler 1035
Thomas, D. 121
Thomas, G. G203
Thomas Publ. Co. D121
Thompson S4
Thynell 2303
Timoshenko 4302
Tingwaldt 4016
Tolansky 3527
Torrey 3823-15
Trambarulo 3409
Trewman 2443 6012
Trimmer 1036
Troxall 6002

3. Author Index (Cont.)

Tschistjakow 1202
Tudorovski 3528
Turner 3823-26
Tustin 1113 1114
Tuttle 2512
Tuve 3018

Uhlenbach 3823-24
Ulrich B121
Unesco I113
Underwater Lab. P1110
USSR A222 A412 B105 B120 I106 I109
P203 P317 P322 P414 P437 P717
P810 P817 P1030 P1053 P1060
P1061 P1129
United States
Agric. Dept. Lib. B203
Air Univ. A203 I300
Armed F. Med. Lib. A102
ASTIA I400
Atomic Energy Com. A412 A416 D102
G401 I401
Bur. Mines. A411 B213 I413
Bur. Nav. Pers. 2608
Civil Aero. Adm. I404
Coast & Geod. Sur. 3302 I404
Commerce Dept. I404
Corps Engrs. I403
Evans Sig. Lab. A423
Govt. Pat. Bd. P7
Lib. Congress, See
Munitions Bd. S6
Nat. Adv. Com. Aero. A218 I407
I408 P116
P117 P118
Nat. Bur. Stds. 2426 3108 3316
3330 3535 3716
I404 I409 P1031
P1102 P1138
Nat. Inst. Health D120
Office Mil. Govt. Ger. 2709 3531
Office Nav. Res. B214 2213 I410
Office Tech Ser. 2213 I404 I411
Pat. Office A207 P13 P14 I405

United States (cont)
Res. Dev. Bd. I111 I112
Special Devices Ctr. B214
Supt. Docs. B113
War Dept. 2000 3211
Weather Bur. I404
Univ. Microfilms D9
Univ. Penna. A101
Uslan 2433
Valley 3823-18-22
Vallot 3305
Vance 3416
Van der Pyl B216
Van Santen 4303
Van Voorhis 3823-23
Varner 3328
Vaupel 6013
Ver. Deut. Ing. A220 B217 1307
2624 I322 P619
Vogel 3525
Voituriez 2010
Voss, von 3016

Wahlstrom 3529
Wakerling 4201
Walcher 2341
Walker 2444 2445
Wallman 3823-18
Walsh 3530
Walther 3020 3531
War Dept. See U.S.
Warren 3724
Watteeuw 3021
Weaver 3826
Weber 4029 5050
Weingraber 3110
Weissberger 7007
Wells 4104
Wensel 4023
Werey 1037
Werkmeister, G. 2322
Werkmeister, P. 2711

3. Author Index (Cont.)

Werner 2011
West, C. J. B122
West, J. C. 1115
Westinghouse 5049
Westley B218
Wexler 3212
Weyl, A. R. 2012
Weyl, C. 3724
Whalen 1017
Wheeler 2218
White 5050
Whitehead 3022
Whitford 5044
Whitmer 3823-15
Wiberley 2114
Wiener 1038
Wiens 5051
Wilkes 2218
Wilkinson 3725
Williams, C. 2104
Williams, F. C. 3823-20 4102
Williams, S. R. 3111
Williams, T. I. 2132
Williams, V. Z. 2102
Wilson, A. J. C. 5052 7035
Wilson, E. B. 2513
Wilson, R. M. 3314
Wilson, W. 2446
Wilson Co. B101 D1 I100 I114 I308
I402
Winchell G209 G210
Wing 2407
Winalow I412
Wise 4108
Wiskocil 6002
Wittke 3329
Wolfhard 4012
Wood, R. W. 3532
Wood, W. P. 4030
Woodson 5061
Woodward, L. A. 3314
Woodward, P. M. 2514
Woodward, R. H. 3823-4
Wooster 3533
Wormall 3709
Worthing 2515
Wright, W. D. 3534
Wunsch 1116

Yarnell 3112
Youden 2516
Young, A. J. 1039 1308
Young, J. F. 5053
Young, M. G. 1040

Zakutskii 5054
Zelbstein 2447
Zeluff 5055
Zeman I324
Zener 5056
Zerban 2108
Zeibolz 1041
Zinke 2448
Zworykin 2449 3416

4. Subject Index

The subject index of the technical literature has been restricted largely to the information indicated by the titles of the entries. Its preparation seemed necessary to cover the many cases where the exact classification of an entry is in doubt and had to be made arbitrarily, or an entry contains diverse subject matter. It also brings into one place for user convenience all of the references in a given field of instrumentation or technology. Only in obvious cases was any attempt made to indicate the extent or technical quality of instrument information in the various entries. The index will serve only as a rough guide in locating books and journals where needed details on a specific topic can be found, and in selecting abstract and index periodicals for use in locating articles in periodicals.

All of the entries in the index will be found in Section 2 on "Instrumentation literature".

Section 2 of the compilation is arranged in alphabetical order as follows:

<u>Entry prefix</u>	<u>Subject</u>
A	Abstract and review journals
B	Bibliographies
None	Books (technical)
D (1-99)	Dissertations
D (100 up)	Directories
G	Guides
I	Indexes
P (1-99)	Patents
P (100 up)	Periodicals (except abstract)
S	Specifications and standards.

The type of information in an index entry is thus readily identified in most cases by reference to the above table. The entry prefix also facilitates locating the reference in Section 2.

There is a difference in usage of the terms index, bibliographies, abstracts, reviews and guides, well illustrated by perusing the entries in this compilation. In compiling the subject index, it has been the aim to make entries in accord with the following definitions:

- a) An index is a list of references, bibliographies, books or specifications covering technology in general. It will include published lists of publications of governmental agencies and indexes of society journals, issued as separate volumes. In many cases it is issued periodically and may be classified by subjects. Examples are the Industrial Arts Index, a bibliography of bibliographies, and the Bibliography of Agriculture.

4. Subject Index (Cont.)

b) If a list of references or books on a particular subject contains an abstract for each entry and is issued periodically, it is defined as an abstract journal, entered as "Abstracts". Examples are the Engineering Index and Physics Abstracts. With or without abstracts, a list of the publications of a single agency, such as the list of the publications of the National Bureau of Standards, is defined as an index.

c) Reviews are in the nature of critical surveys covering progress during a limited length of time and are usually issued periodically. It includes a selected list of references, which essentially are abstracted in the periodical. These are often called "Advances" in a particular subject. While perhaps not logical, it should be added that the term review is reserved for texts on a particular subject.

d) The term bibliography is restricted to a list of the literature on a particular technical subject, not issued periodically. It may or may not contain abstracts.

e) A guide contains general information on how and where to locate published technical data.

It is realized that these definitions are not entirely logical, but it will be obvious by inspection of the titles in the entries that using only the titles would lead to greater confusion.

4. Subject Index (Cont.)

Abstract, periodicals, wide coverage, see also specific subject

Biology, Medicine A101 A104 A406

Chemistry A407

Engineering A204 A208 A211 A406

Mathematics A406 A414

Physics A406 A417 A418

Acoustics, see Sound

Aeronautics

Abstracts A201 A202 A211 A214 A216 A218 P101

Electrical systems 2001

Fluid dynamics 5038

Guided missiles 2012

Gyroscopes 2007 2010

Index A203 I308 P108

Instruments 2000 2003 2004 2005 2009

Maintenance 2011

Rocket 5032

NACA publications I407 I408

Navigation 2002 2006 3805 3823-2-3-4

Periodicals P100-P108 incl. P111 P113-118 incl. P120 P122 P123

Instruments P100 P101 P109 P111 P113 P115 P117 P118 P119 P120
P442 P713 P1023

Radio, see

Agriculture Index B103

Air, compressed 7052

Air conditioning 5001 P607 P608

Air pollution, bibliography 3204

Air, thermodynamic properties 5057

Aluminum, abstracts A512

Analysis, chemical 2114 2123 2126 2801

Abstracts, see Chemistry

Color, see

Colorimetry 2120 2130 2132

Conductometric 2106

Electrophoresis, bibliography B206

Isotopic gas 7006

Mass spectrometers, see

Micro chemistry 2101 2126

Microscopy 3402

Particle size 7031

Periodicals P300 P301 P307 P308 P318 P322

pH, see

Physical methods 2105

Polarimetry 2103

Polarography 2115 2116 2119 2131

4. Subject Index (Cont.)

Analysis (cont.)

Spectroscopic 2100 2112 2120 2122 2124 2128

Infrared 2102

Sugar 2103 2108

Anemometers 3206

Astronomy

Abstracts A417 A420

Navigation 2002

Telescopes 3511

Astrophysics 3505

Periodicals P904 P1056 P1057

Automatic control 1012 1013 1030 1031 1033 1041 1101 1102 1103 1104
1106-1110 incl. 1201 1205 1206

Abstracts A201 A204 A208 A211 A406 A407

Air conditioning 1203

Bibliography B212 B215 B217 B219 1002 1031

Boiler plant 1202

Design, devices 1212

Discontinuous 1015

Electric, industrial 1027

Electric motors 1020 1021 1022 1024

Electric power 1211

Electronic

Circuits 1007 1019

Handbook 1003

Maintenance 1029

Feedback 1000 1014 7000

Bibliography B219

Frequency response 1002

Index I308

Oil refining 1208

Periodicals P107 P201-205 incl. P209 P210 P404 P413 P418 P719 P819
Process control P311 P711 P712 P713

pH 1005

Pressure 1116

Process control 1010 1017 1025 1034 1037 1040 1100 1202 1208

Servomechanisms 1001 1004 1006 1008 1009 1016 1018 1026 1028 1032
1035 1038 1105 1200 1204 1207

Bibliography B212

Theory 1023 3823-25

Symposium 1002 1105 1113

Synchros 1008

Systems 1114

Dynamics 1011

Stability 1111 1112

Theory 1036 1039 1209 1210 1213 2418

4. Subject Index (Cont.)

Automatic control (cont.)
Terminology 1300-1308 incl.
Translator chains 1042
Automotive engineering P616

Balances, see Metrology
Barometers 3207 3209 3603 5017 5027
Bibliographies, see also specific subject
Indexes B100 B101 B106 B107 B109 B111 B112 B116 B122
Translations, Russian B105

Biology
Abstracts A101 A103
Isotopic tracers 3709
Microscopy 3404 3411
Periodicals P917 P1049 P1057

Biophys. chem. abstracts A103
Biophysics
Abstracts A100 A103
Periodicals P721 P1057
Review 5045
Reviews A100
Bourdon tubes
Bibliography B216
Periodicals P711 P819
Buyer's guide, see Directory

Cathode ray tube, see Oscilloscopes
Ceramics, abstracts A501 A503
Chemistry
Abstracts A400 A402 A404 A406 A407 A408 A410 A424 I306
Analysis, see
Clinical 2117
Gas reactions 2111
Glass electrode 2107
Handbook, see
Index I308
Instrumentation 2107 2123 2125
Laboratory techniques 2109 2111
Magneto 2129
Microscopy 3402
Optical methods 2113 3517
Organic, physical methods 7007

4. Subject Index (Cont.)

Chemistry (cont.)

Periodicals

Analytical P300 P301 P307 P308 P318 P322
Biological P312 P917
Color P314
Electro- P316 P319
General P303 P315 P323 P1003 P1031
Geo- and cosmo- P310
Industrial P302 P311 P317 P609
Physical P313 P320 P321 P1024 P1057
Spectro- P930
Techniques P304 P305 P306 P721

pH, see

Process control 1017

Reactions 2121

Statistical methods 2516

Circuits, see also Electricity; Electronics.

Non linear 5039

Periodical P213

Civil engineering

Abstracts A210

Periodical P807

Color 3515 3520 3522 3534

Application 2132

Colorimetry 2120 2130 2132

Combustion 4017 4018 P604

Communication theory, see Information theory

Communications

Abstracts A208

Periodicals P211 P212 P403 P409-412 incl. P415 P426 P429 P434 P440 P442

Radio, see

Transmission networks 3825

Wave filters 3825

Computers 2202 2217

Abstracts A201 A208 A211 A221 A302

Analog 2203 2208 2209 2215 2216

Calculating machines 2206 2210 2212

Circuits, electronic 1019

Data storage, bibliography B207

Differential analyzer 2203

Digital 2200 2201 2213 2214 2218

IBM, bibliography B204

Index I308

Mechanisms and linkages 3823-27

Periodicals I410 P204 P207 P213 P711 P712 P713 P721 P1023

4. Subject Index (Cont.)

Computers (cont.)

Punched cards 2204 2205

Storage tubes 2207

Controllers, see Automatic control; Regulators

Cosmic rays 5032

Counters, see Radiation, nuclear

Creep 5047 5056

Bibliography 5047

Cryogenics

Abstracts A211 A417 A418

Periodicals P721 P1023 P1040 P1043

Physics 4025

Crystallography 3529 3533 5052

Abstracts A211 A417

Periodicals P721 P1023

Data storage and recording, Bibliography B207; see also Computers

Density, see Metrology

Detonation, see Explosions

Dielectrics 5019 5020

Application 5019

Dimensional analysis 2503 2506

Directory, manufacturers

Canada D104

France, exhibit D109

Germany

Chemistry D100

Machines D123

Great Britain

Exhibits D103 D113

Instruments D107 D116 D122

Switzerland, machines, tools D100

United States

Aeronautic D114

Chemical D105

Electronics D108

Exhibits D120

General D118 D121

Instruments

General D115 D117

Radiation D102

Mechanical D101

Nucleonics D119

Trade names D111

4. Subject Index (Cont.)

Dissertations

Abstracts D9
Guide D4 D6 D8
Index D1 D2 D3 D5 D7

Electricity, see also Electronics

Abstracts A208 A209 A211 A221 A301 A302 A418
Bridge, ac 2315
Code 2308 S3
Controls 1027
Electromagnetic devices 2335
Electrostatics 2328
Handbooks, see
Index I308
Instrumentation 2300 2304 2306 2312 2314 2317 2319 2322-2327 incl.
2330 2331 2332 2336 2337 2339 2340
Industrial 2307 2333
Meter engineering 2309 2311 2321
Power 2320
Standards 2305
Maintenance 6113
Periodicals P401 P402 P405-408 incl. P413 P414 P419 P420 P421 P423
P425 P432 P438 P443 P444 P721 P1023
Applications P404
Power P431
Recorders 2329
Rectifiers 2313 2341
Relays 2334
Reviews A421
Standards 2305 2338
Telemetering 2303
Terrestrial 2310
Testing, see
Transformers 2316
Electron optics 2405 2415 2428 3412 3416; see also Microscopy, electron
Bibliography B202
Periodicals P721 P1023
Electronics, see also Electricity
Abstracts A206 A208 A211 A221 A301 A302
Applications 2413 2447 2443
Circuits 1042 2404 2407 7010 7011
Controls 1003 1007 1019 1029 1041
Handbooks 5049 5055
High frequency 2416 2448

4. Subject Index (Cont.)

Electronics (cont.)

Index I308

Instrumentation 1016 2400 2402 2406 2409 2414 2416 2419 2425 2436
2442 2443 2444

Magnetic amplifier 2413

Manufacturers, see Directory

Oscilloscopes, see

Periodicals P400 P409 P410 P416 P418 P422 P424 P433 P435 P436 P439
P441 P442 P721 P1023

Aeronautical P442

Industrial P417

Instrumentation P417

Phototubes, see

Printed circuits 2426

Radio, see

Transducers 2420 2438

Transistors 2420 2438

Vacuum tube voltmeter 2423 2434 2436

Vacuum tubes, see

Electrophoresis, bibliography B206

Engine indicators 3601

Engineering, periodicals P605 P606 P610 P611 P612 P617 P618 P619

Expansion, thermal 5018

Experimental data

Evaluation 2319 2322 2510 2511 2512 2513 2515

Presentation 2500

Experiments, design of 2501 2502 2504 2508 2509 2513 2514 2516 7015

Explosions

Abstracts A211 A417

Detonations 4017 4018

Periodicals P721 P1023

Underwater 5008

Feedback control, see Automatic control

Flow, fluid

Abstracts A201 A202 A204 A211 A220 A407 A415 A417

Airflow 2620

Code 2607

Gas 2602 2605 2609 2611 2620

Index I308

Instrumentation 2603 2604 2613 2618 2620 2621 2622 2623

Mass flow 2616

Nozzles and orifices 2601 2612 2613 2619 2622 2624

Theory 2603 5028

4. Subject Index (Cont.)

Flow, fluid (cont.)

Periodicals P711 P712 P713 P819 P1032

Rheology 2606

Stream flow 2615 2617

Fluid dynamics 3020 4007 5038

Abstracts A201 A202 A211

Fluorescence 3524 3525

Foundry, cast iron, abstracts A502

Fuel, abstracts A504

Gaging, dimen. 2801 P711 P808

Gas

Abstracts A211 A417 A505

Analysis, see

Dynamics 4017 4018

Flow, see

Periodicals P505 P721 P1043

Properties, thermodynamic 5057

Reactions, exp. 2111

Specific gravity 3327

Gears 7020

Geodesy, see Geophysics

Geophysics

Abstracts A211 A411 A417 A426

Atmospheric electricity 3202

Exploration, see Oil

Geodesy A427 2711 3300 3309 3319 3329

Gravity 2704 3309

High altitude 5032

Hydrographic manual 3302

Index I308

Meteorology, see

Oceanog. instr. 3320

Periodicals P1002 P1005 P1008 P1011 P1018 P1019 P1020 P1026 P1052
P1053 P1060

Prospecting 5009

Reviews A401

Seismology 2701 2707 2708 2709

Glass

Abstracts A211

Blowing 5002

Index I308

Periodicals P501 P705 P1023

Survey 3509

4. Subject Index (Cont.)

Glass electrodes 2107
Gravity, see Geophysics
Guides to literature, see also Indexes
 Bibliography G203
 Chemistry G100 G102 G103 G107 G109
 Education G200
 Engineering G101 G105 G108 G204
 General G201 G205 G206 G207 G209 G210
 Physics G110 G204
 Science G106 G204
Guided missiles 2012 5032
Gyroscopes 2010 3002 3004 3006 7021
 Compass 2007

Handbooks
 Chem. engr. 5035
 Chemistry 5021
 Compressed air 7052
 Elect. engg. 5003 5023 5034
 Electronics 5049 5055
 Engineer's 5022
 Heating, ventilating, air cond. 5001
 Instrumentation 2801
 Design D106
 Machinery 5033
 Materials and processes 5053
 Mechanical engg. 5007 5012 5028 5041
 Metals 5000 5043
 Meteorology 3208 5027
 Physics 5013 5014 5021 5051
 Applied 5017 5054
 Medical 5016
 Product design D112
 Psychology, see
 Radio engr. 3824 5048
 Radiology 7055
 Surface tension 7051
 Transducers 5025
 Water 5010
Hardness 3105 3106 3107 3110 3111
Heat, see also Power
 Abstracts A211 A407 A417 A418
 Index I308
 Instrumentation 4008 4029 5017
 Periodicals P721 P1006 P1023
 Transmission 4007

4. Subject Index (Cont.)

Heating P607 P608
Highway research, abstracts A213 A219
Horology, see Timing
Human engineering 5058-5061 incl.
 Abstracts A102
 Bibliography B214
 Periodical P108
Humidity 3200 3212
Hydraulics 2608
 Instrumentation 2600 2615 2617
Hydrogen ion concentration, see pH

Illumination 4010 P909
Indexes to literature
 ASME I301
 ASTM I302
 Bibliographies I113
 Book reviews B119
 Books B102 B108 I100 I102 I305 I313
 British I304 I312
 German I314 I315 I322
 East Europe accessions I105
 Electronics I202
 Geophysicists, Soc. Expl. I321
 Index of indexes I103
 Union I104
 Inst. Engr. Austr. I309
 Inst. Mech. Engrs. I310 P811
 Instruments I200 I201
 Library, see
 Patents, see
 Periodicals I300 I303 I313 I319 I324
 Agriculture B103
 Engineering I308 I403
 List NYPL I101
 List, Union G202 I107 I108 I114
 List, world B118 B121 I323
 Radio I316
 Physics G110 I307 I320
 Royal Society I317
 Russian I106 I109
 Technology I308
 United States
 Bur. Mines I412
 Dept. Comm. I404

4. Subject Index (Cont.)

Indexes to literature (cont.)

United States (cont.)

Nat. Adv. Com. Aero. I407 I408
Nat. Bur. Stds. I409
Office Tech. Serv. I405
Publications B113 I401
Reports I400 I403 I406 I411

Information theory 2514 3826 3827 3828 5040 P442

Infrared, see Radiation

Inspection, see Testing

Instrumentation abstracts, specific coverage

Aeronautics A201 A202 A218 P101
Biology A404
Chemistry A404 A407 A408
Electronics and electricity A208 A221 A301 A302
General A205 A211 A212 A215 A217 A220 A300 A402
Geophysics A426
Mechanics A204 A223
Metallurgy A508
Meteorology A415 A426
Nuclear A416 A417
Patents A207 P710 P719
Photography A509 A510 A513
Research A402 A406 A407 A417 A418
Spectroscopy A424
Vacuum A425

Instrumentation, general, see also specific instrument 2800 2801 2803 2804
2807 2811 3022 5011 5046

Components 709

Electrical, see Electricity

Electro-mechanical 2808 2810

Electronic, see Electronics

Index I308

Industrial 2805 2809

Joining elements 5037

Laboratory 2806 5011

Optical, see Optics

Periodicals P700-703 incl. P707 P708 P710-713 incl. P716 P719 P722
P723 P724 P726 P727

Electronic P417 P442

Glass apparatus P705

Industrial pract. P704 P706 P709 P711 P717 P718 P725

Materials P709

Scientific P714 P720 P721 P722 P727 P1013 P1023 P1025 P1031 P1039
P1041 P1042 P1046 P1049 P1138

Surveying P728

4. Subject Index (Cont.)

Instrumentation, general (cont.)
 Scientific 2802
 Theory 2804
Instrument manufacturers, see Directory
Instrumentation, research, index A506
Interferometers, see also Optics
 Application 3527
 Review 3504
Ionization gages, see Vacuum
Isotopic gas analysis 7006

Joining elements 5037

Laboratory techniques 5026
 Chemistry 2109 2111
 Frequency response, systems 1002
 Instruments 2806
 Metallography 3102
 Periodicals P714 P715 P716 P721 P1023
 Physics 5005 5024 5044
Length, see Metrology
Library
 Additions to B115
 Directories G208 I110
 Instruments I203
Light, see Optics; Photometry
Liquid volume 2807
Luminescence 3524 3525

Magnetic amplifiers 2412
Magnetic cooling 5011
Magnetism
 Abstracts, see Electricity
 Bibliography 5004
 Ferro- 5004
 Handbooks 5014 5023 5034
 Index I308
 Instrumentation 2301 2302 2318
 Periodicals P404 P413 P432 P1023 P1048
 Reviews A421
 Terrestrial 2310
Magneto chemistry 2129
Manometer tables 3603 5027

4. Subject Index (Cont.)

Manometers 5017

Manufacturers, directory, see Directory

Mass spectrometers 2104 2900 2901 2902 2903

Materials

Abstracts A211 A223

Handbook 5053 6010

Index I308

Periodicals P614 P1106 P1145

Specifications S2 S4 S5 S6 S8

Testing, see

Trade names D111

Mathematics

Abstracts A406 A414 A420

Applied 5022 5042

Periodicals P810 P824 P1006 P1054

Mechanics, see also Metrology

Abstracts A200 A204 A211 A222 A417 A418

Deflection measurement 2808 2810 3008

Gears 7020

Gyroscopes, see

Handbooks, see

Hardness, see

Index I308

Instrumentation 3018 3019

Joints 5037

Optical 3014

Shop 3003 3011 3012 3021

Mechanisms 3000 3007 3010 3016 3017 3022

Metrology, see

Optics 3508 3510

Periodicals P614 P721 P810 P811 P814 P815 P816 P819 P1006 P1128

Machinery P800 P813

Shop practice, precision P803 P808 P809 P817 P823

Theory P805 P824

Weighing P1130

Reviews 5030

Speed, see

Stress and strain, see

Testing machines 3005

Viscosity, see

Medical physics reviews A100

Medicine

Abstracts A100 A102 A104 A116

Handbook 5016

Index A102

Aviation P108

4. Subject Index (Cont.)

Medicine (cont.)

Microscopy 3404
Optical instruments 3517
Periodical, aviation P108
Research methods 5036

Metallurgy 3109

Abstracts A201 A205 A211 A407 A508
Creep. 5047 5056
Hardness, see
Index I308
Metallography 3102
Metals handbook 5000 5015
Periodicals P616 P721 P818 P819 P820 P825 P1107
Radiology 3715
Stress and strain, see

Meteorology

Abstracts A211 A415 A417 A426
Anemometers 3206
Atmos. elect. 3202
Barometers 3605 5017 5027
Climatology 3203
Compendium 3208
Handbook 5027
Humidity, see
Index I308
Instrumentation 3201 3207 3208 3209 3210 5017
Periodicals P110 P112 P121 P721
Pollution, air, bibliography 3204
Radiation, heat transfer 3205
Weather observer 3211

Metrology

Abstracts A204 A211 A222 A300 A402 A417 A418 A426
Angle 3322
Applied 3011 3012 3133 3325
Balances 7030 7033
Density 3308 3327
Gaging, dimen. 2801
Geodesy, see Geophysics
Index I308
Instrumentation 3301 3305 3307 3310 3311 5017
Length 3313 3325
Micromeritics 3304
Periodicals 3316 P711 P721 P808 P1031 P1126 P1128 P1143 P1144
Rectifiers, mechanical 3312
Standards 3318

4. Subject Index (Cont.)

Metrology (cont.)

Surface finish 3321 3323 3324
Units 3317 3318 3330
Weighing 3303 7030
Micromanometers 2111 2125
Micromeritics 3304
Microscopy, electron
Abstracts A211 A417 A418
Application 3403 3405
Bibliography B203 B210
Index I308
Periodicals P911 P1023
Reviews 3401 3403 3406 3408 3410 3412 3415 3416

Microscopy, optical

Application 3402 3404 3411
Periodicals P721 P914 P917 P932 P933 P1023
Reviews 3407 3413 3414

Microscopy, phase 3400

Microwaves, see Radiation

Mining

Abstracts A211
Index I308
Periodicals P818

Moisture meters 2106

Periodicals P711 P712 P713

Motors, electric, controls 1020 1021 1022 1024

Navigation

Abstracts A201 A202 A211
Index I308
Periodicals P101 P109 P111 P119 P442
Radar 3805 3823-2-3-4
Reviews 2002 2006

Networks 3825

Nozzles, see Orifices

Nucleonics, see also Radiation

Abstracts A211 A416 A417
Experimental 3702 3711 3721
Index I308
Isotopic tracers 3709 3723 7006
Nuclear physics 3712
Neutron optics 3713
Periodicals P442 P721 P912 P916 P1022 P1023 P1044
Radio chemistry 3705

4. Subject Index (Cont.)

Nucleonics (cont.)

Reviews A419

Terminology 3700

Oceanogr. instruments 3320 7032

Oil; Petroleum

Abstracts A211

Index I308

Periodicals P500 P502 P503

Instrumentation P502 P503 P711 P712 P713 P819

Prospecting 2706

Gravitational 2704

Seismic 2700 2703 2705 2710

Refining, automatic control 1208

Operations research P207

Optics

Abstracts A211 A417 A418

Applications, see also specific subject 3508 3510 3517 5017

Chemistry 2113

Color, see

Crystallography 3529

Electron, see Electron optics

Fluorescence 3524 3525

Geometrical 3531

Glass 3509

Handbook 5013 5021 5051

Index I308 P913

Instrumentation 3501 3502 3512 3513 3518 3519 3523 3528 5017 5046

Interferometers 3504 3527

Light 3521

Luminescence, see

Microscopes, see Microscopy

Microwave, see Radiation

Periodicals P721 P907 P913 P918 P919 P920 P921 P928 P1006

Applications P808 P809 P919 P925

Instrumentation P906 P913 P919 P928

Photogrammetry, see

Photography, see

Photometry, see

Physical optics 3532

Reviews A421

Spectroscopy, see

Telescopes 3511

4. Subject Index (Cont.)

Orifices, see also Flow

Abstracts A211
Application 2619
Bibliography B213
Coefficients 2601 2612 2624
Index I308

Oscilloscopes

Abstracts A208 A211 A301 A302 A417 A418
Application 2424 2432 2435 2446 3823-22
Time interval 2417
Handbook 2422 2433
Index I308
Periodicals P413 P418 P428 P430 P432 P442 P721
Review 2403 2411 2417 2431 2435 2441

Particles, small 3304 7031

Patents

Abstracts A207 A404 P407 P408 P14
Bibliography B110
British P9 P10 P11 P710
Canadian P4
Classification manual P13
Foreign P12
Electronic P6
French P2 P3 P719
General P1
German P5 P8
Instrument P7
Petroleum, see Oil

pH 2112 2118 2130

Abstracts A407
Controls 1005
Electrometric 7005
Glass electrodes 2107
Periodicals P711 P721
Phosphorescence 3524 3525
Photogrammetry 3300 3306 3314 3315 3326

Abstracts A211 A417 A418

Index I308

Periodicals P922

Photography

Abstracts A211 A417 A418 A500 A509 A510 A513
High speed 3514
Index I308

4. Subject Index (Cont.)

Photography (cont.)

Periodicals P908 P923 P924 P925 P929 P934

Photomicrography 3526

Review 3506

Photometry 3500 3516 3530

Abstracts A211 A417 A418

Index I308

Stellar 3505

Photo tubes 2415 2429 2439 2449

Abstracts A211 A417

Index I308

Periodicals P409 P418 P442

Physics

Abstracts A402 A406 A407 A413 A416 A417 A418 A420 P1010

Acoustics, see Sound

Electricity, see

Engineering 5040

Geophysics, see

Handbooks, see

Heat, see Heat; Temperature

Instrumentation, see specific subject

Laboratory techniques 5005 5024 5044

Light, see Optics

Low temperature 4025

Magnetism, see

Mechanics, see

Periodicals

Applied

Canada P1016

Germany P601 P617 P618 P1054 P1055 P1059

Great Britain P1013

India P1033

Italy P1051

Japan P1037 P1038 P1050

Russia P1061

United States P602 P603 P606 P609 P1023 P1025

Research

Canada P1015

France P1017 P1022

Germany P1001 P1012 P1045 P1057 P1058

Great Britain P1039 P1041 P1042 P1046 P1047

India P1027

Italy P1009 P1021 P1051

Japan P1029 P1034 P1036

Netherlands P1006 P1040 P1043

Russia P1030

4. Subject Index (Cont.)

Physics (cont.)

Periodicals (cont.)

Research (cont.)

Spain P1003

Sweden P1007

United States P1000 P1028 P1031 P1044

Practical 5050

Radiation, see

Reviews A421

Theoretical methods 5031

Vacuum, see

Piezoelectric crystals 3905 7050

Piezoelectricity 5006

Pirani gage, see Vacuum

Plastics P507

Abstracts A211

Index I308

Polarimetry, see also Optics 2103

Polarography 2115 2116 2118 2119 2131

Abstracts A407

Bibliography B208

Power, see also Heat

Abstracts A208 A211

Index I308

Instrumentation 4008

Periodicals P600

Supplies, regulated 3823-21

Test codes S1

Pressure

Abstracts A201 A202 A211 A218 A407 A417 A418

Barometers 3207 3209 3603 5017 5027

Bibliography B220

Engine indicators 3601

Gages, Bourdon, bibliography B216

High 3600 3606

Bibliography 3600

Index I308

Manometer tables 3603 5027

Manometers 5017

Mechanisms, fluid 2610

Micromanometers 2111 2125

Periodicals P101 P110 P111 P115 P118 P311 P605 P616 P619 P702 P706

P711 P712 P713 P714 P719 P721 P727 P1013 P1023

Power test codes S1

Regulators 1116

4. Subject Index (Cont.)

Pressure (cont.)

Review 2801 2807 3602
Shock tube, see
Vacuum, see
Psychology 5059 5059 5060 7053
Pyrometry, see Temperature

Radar, see also Radiation, microwave

Abstracts A201 A208 A211 A³01 A³02
Bibliography 3817
Components 3823-17 4010
Consol 3805
Decca 3805 3823-2
Index I308
Information theory 2514
Loran 3805 3823-2-4
Navigation 3823-2-3-4
Oscillograph displays 3823-22
Periodicals P418 P436 P442 P1023
Pulse generators 3823-5
Radomes 3823-26
Review 3802 3806 3808 3809 3812 3819
Scanners 3823-26
Signals, threshold 3823-26
Systems 3801 3823-1
Time measurement 3823-20

Radiation, general, energy measurement 4010

Radiation, infrared

Abstracts A211 A417 A424
Analysis 2102
Heat transfer 3205
Index I308
Spectra 3535 3536 I311
Periodicals P301 P313 P323 P714 P721 P903 P913 P1023 P1024 P1031 P1047
P1048

Radiation, microwave, see also Radar

Abstracts A208 A211 A³02 A417
Antenna 3823-12
Circuits 3823-8-9
Crystal rectifiers 3823-15
Duplexers 3823-14
Instrumentation 3814 3823-10-21
Klystrons 3823-7
Lenses 3503

4. Subject Index (Cont.)

Radiation, microwave (cont.)
 Magnetrons 3823-6
 Mixers 3823-16
 Periodicals P442 P721 P1023 P1031
 Propagation 3823-13
 Receivers 3823-23
 Review 3810
 Spectroscopy 3409
 Techniques 3822
 Theory 3822
 Vacuum-tube amplifiers 3823-18
 Waveforms 3823-19
Radiation, nuclear and X-rays, see also Nucleonics
 Abstracts A211 A416 A417 A418 A422
 Application 3703 3704 3708 3715 3720
 Bibliography 3720
 Counters 3705 3706 3710 3719 3725
 Diffraction
 Bibliography B202
 Index I308
 Diffraction powder, Punched cards I312
 X-ray 7035
 Instrumentation 3705 3707 3711 3715
 Monitoring 3716
 Neutron optics 3713
 Periodicals P721 P926 P927 P1001 P1023 P1031 P1044 P1047 P1048 P1058
 Therapy P931
 Review 3714 3724
 Spectroscopy 3722
 Techniques 3717 3718
Radiation, stellar 3505
 Abstracts A211 A417 A418
 Periodicals P904 P1056 P1057
Radiation, visible and ultra violet, see Optics; Spectroscopy
Radio
 Abstracts A208 A211 A301 A302 A406 A423
 Aeronautic 2008
 Periodicals P433 P436 P442
 Direction finders 3803 3813
 Handbook 3824 5048 5055
 Index I308
 Instrumentation 2337 2402 2427 3804 3807 3811 3815 3816 3818 3821
 Periodicals P403 P427 P428 P433 P435 P436 P437 P442 P445
 Prospecting 2410
 Vacuum tubes, see

4. Subject Index (Cont.)

Radiology 7055
Recorders 2329
Rectifiers
 Electrical 2313 2314
 Mechanical 3312
Refractories P504
Refrigeration
 Abstracts A511
 Periodicals P615
Regulators
 Periodicals P607 P608 P615 P707 P711 P712 P713 P719 P724 P819
 Pressure 1010 1037 1115
 Temperature 4002 4014 4024
Relays 2334
Resistance wire strain gage, see Stress and strain
Reviews (not classified), technology A220
Rheology, see Flow
Rocket instr. 5032
 Abstracts A201 A211
 Index I308
 Periodicals P101 P106
Rubber
 Abstracts A211 A407
 Index I308
 Periodicals P506
Russia, see USSR

Scanning generators 3820
Seismology, see also Oil 2701 2707 2708 2709
 Abstracts A211 A411 A417 A426
 Index I308
 Periodicals P1014
Servomechanisms, see Automatic control
Shock tube 3604 3605
 Abstracts A201 A211 A417
 Periodicals P1023
Solders 7054
Sound
 Abstracts A211 A417 A418 P913
 Electro acoustics 3904
 Index I308
 Instrumentation 3900
 Periodicals P403 P721 P900 P901 P902 P910 P915 P1006 P1031
 Noise P915

4. Subject Index (Cont.)

Sound (cont.)

Review 3901 3906 3907 3908 7040

Reviews A422

Ultrasonics 3902 3903 3905 P442 7040

Specifications

Index S4 S6

Materials S2 S8

Periodicals P1103 P1104

Spectrometry, mass, see Mass spectrometer

Spectroscopy 2127

Abstracts A211 A417 A418 A424

Analysis, see

Bibliography B211

Color, see

Index I308 P903

Periodicals P721 P903 P905 P1023

 Applied P903 P930

 Astrophysical P904

Reviews A421

Stellar 3505

Speed

Abstracts A211

Index I308

Periodicals P101 P111 P711 P712 P713 P714 P721 P727

 Rotational 2803 3001 3015

Springs, bibliography B200

Standards 3318 S5 S7 S9

Abstracts A211 A417 A418

Electrical 2305 2338

Index I308

Periodicals

 Australia S10

 Austria P1114

 Chile P1127

 France P1109 P1112 P1128

 Germany P1100 P1101 P1113 P1142 P1143 P1144

 Great Britain P1126

 India P1118

 International P1119

 Netherlands P1125

 Roumania P1108

 Russia P1129

 Servia P1134

 South Africa P1133

 Sweden P1127

 United States P1015 P1031 P1102 P1107 P1130 P1135 P1136 S11

4. Subject Index (Cont.)

Standards (cont.)

Units 2328 3328 3330

Statistics, see also Experiments, design of

Abstracts A211 A407 A414 A417

Accuracy 2511

Analysis 2505

Chemistry 2516

Index I308

Measurements 2510-2513 incl.

Methods 2507

Periodicals P200 P207 P208

Probability, radar 2514

Steel furnace controls 1100

Stress and strain

Abstracts A201 A204 A211 A417 A418

Handbook 3100

Index I308

Optical 3104

Periodicals P711 P712 P713 P812 P1013 P1023

Resistance wire 3108 3112 7025

Review 3101 3103

Sugar analysis 2103 2108

Surface finish, see Metrology

Surface tension 7051

Surveying P728 3307

Abstracts A211

Index I308

Symposia

Automatic control 1034

Computers, digital 2201

Frequency response 1002

Gas temperature 4026

High pressure 3606

Information theory 3827 3828

Instrumentation 2811

Magnetic testing 2302

Mass spectrometry 2903

Non-linear circuits 5039

Optical instruments 3512

Process control 1116

Spectroscopy, analysis P309

Strain gages, resistance 3108

Temperature 4000

4. Subject Index (Cont.)

Telemetering 2303 P442

Television

Abstracts A208 A211 A302

Handbook 5034

Index I308

Periodicals P212 P433 P436

Temperature

Abstracts A201 A211 A406 A407 A417 A418

Code 4004

Combustion 4017 4018

Controls 4002 4005 4014 4024

Flames 4012 4018

Gas, bibliography B205

Index I308

Instrumentation 3602 4000 4003 4013 4015 4019 4021 4024 4029

Low

Bibliography B209

Physics 4025

Periodicals P110 P118 P311 P604 P616 P619 P702 P711 P712 P713 P714
P721 P727 P818 P819 P1013 P1023 P1031 P1046 P1052

Pyrometry 4001 4006 4009 4016 4020 4027 4030

Surface 4022

Symposium 4000

Thermocouples 4023 4026

Testing and inspection

Abstracts A211

Electrical 6103 6110 6114

Electronic 6104 P442

Engines, automotive 6105

Index I308

Inspection methods 6007 6009

Mechanical 6012

Maintenance 6113

Materials 6000 6001 6002 6003 6008

Handbook 6011

Instruments 6102

Non destructive 6006

Xray 6004 6005 6013

Metals 6005 6106 6109 6111

Periodicals P724 P1103 P1104 P1105 P1115 P1120 P1128 P1140

Materials P711 P712 P713 P721 P1106 P1111 P1117 P1121 P1122 P1123
P1131 P1132 P1141 P1145 P1146

Non destructive P1116 P1124

Shop P718 P1131

Petroleum 6115

Radio 6101

4. Subject Index (Cont.)

Testing and inspection (cont.)

Soils 6100

Testing machines 3005

Textiles 6107 6108 6112 P508

Textiles

Abstracts A211 A514 A515

Index I308

Periodical P508

Testing 6107 6108 6112

Thermostatic metals, bibliography B201

Thesis, see Dissertations

Timing

Abstracts A211 A417 A418

Electrical clocks 4108

Electronic 3823-20 4102 4104

Escapements 4106

Index I308

Interval 2417 3820 4102 4104

Periodicals P418 P711 P714 P721 P727 P801 P802 P804 P806 P1013 P1023

Timepieces 4100 4101 4103 4105 4107

Torsion balance 2704

Trade names D111

Transducers 1042 2808 2810

Commercial 5025

Electro-mechanical 2808 2810 5029

Transformers 2316

Transistors 2420 2438

Periodicals P721 P1023

Transmission networks 3825

Translator chains 1042

Ultrasonics, see Sound

Ultraviolet, see Radiation

United States, see also specific subjects, publications I401 B113

Units 3317 3328 3330

USSR literature, see also specific subject

Abstracts A412

Accessions U.S., list I106

Periodicals, list I109

Transl. of titles A412 B120

Vacuum, see also Pressure

Abstracts A211 A407 A417 A418 A425

4. Subject Index (Cont.)

Vacuum (cont.)
Index I308
Instrumentation 4200 4202 4203
Periodicals P705 P714 P721 P821 P822 P1013 P1023
Review 4200 4201 4203 4204
vacuum tubes 2401 2407 2408 2430 2437 2440
Application 2436
Handbook 2421 2429
Periodical P418 P721
vibration 3906 4300 4301 4302 4303
Abstracts A211 A417
Periodicals P711 P713 P1023 P1031
viscosity 3013
Abstracts A211 A407 A417
Index I308
Periodicals P313 P1013 P1023
Volume, liquid, see Liquid
Vortex tube bibliography B218

water 5010
wave filters 3825 5029
waveforms 3823-19
weighing, see Metrology

X-rays, see Radiation, nuclear and x-ray